THE ADAPTATION OF CLOUD SOLUTION FOR PEER COLLABORATION WORK AMONG TEACHERS IN MAKTAB NASIONAL SECONDARY SCHOOL

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ABSTRACT

In Maktab Nasional secondary school, students' assessment record is manually keyed-in and analysed in Microsoft Excel spreadsheets stored in one local computer. Teachers need to wait in turns to input marks. It is time consuming and hinders productivity at work. This study aims to examines the capabilities of google drive solution and to evaluate its implementation effectiveness in peer-to-peer collaboration among teachers to manage students' assessment records. The two research questions for this study were: (1) How does google drive solution able to manage student assessment records at Maktab Nasional? and (2) How to evaluate the effectiveness of google drive implementation in managing student assessment record at Maktab Nasional? A set of task-based assessment and a survey questionnaire were formulated for data collection, consisting of a demographic item, a five-point Likert-scale with 26 items followed by listing 3 negative and 3 positive aspects of google drive and lastly, 4 open-ended items about teachers' overall perception. The sample population of 6 teachers were surveyed using purposive sampling technique. The data for this study was collected during the school break on mid-June 2021. The survey results were analysed using basic descriptive statistics as well as coded thematic analysis to help answer the research questions. The results from the research instruments indicated that the cloud solution is an effective form of peer collaboration among teachers. In addition, participants expressed that the process of managing student assessment records have improved significantly from the google drive implementation.

Keywords: cloud solution, peer collaboration, google drive, task-based assessment, survey questionnaire

ADAPTASI PENYELESAIAN AWAN UNTUK KOLABORASI KERJA DI KALANGAN GURU DI SEKOLAH MENENGAH MAKTAB NASIONAL

ABSTRAK

Di sekolah menengah Maktab Nasional, rekod penilaian pelajar dimasukkan secara manual dan dianalisis dalam lembaran Microsoft Excel yang disimpan dalam satu komputer tempatan. Para guru perlu menunggu giliran untuk memasukkan markah. Keadaan ini memakan masa dan menghalang produktiviti guru di tempat kerja. Kajian ini bertujuan untuk mengkaji keupayaan penyelesaian google drive dan menilai keberkesanan pelaksanaannya dalam kerjasama di kalangan guru untuk mengurus rekod penilaian pelajar. Penyelidikan ini mempunyai dua soalan kajian iaitu: (1) Bagaimanakah penyelesaian google drive mampu mengurus rekod penilaian pelajar di Maktab Nasional? dan (2) Bagaimana menilai keberkesanan pelaksanaan google drive dalam menguruskan rekod penilaian pelajar di Maktab Nasional? Satu set penilaian berasaskan tugasan dan soal selidik tinjauan telah disediakan untuk pengumpulan data yang terdiri daripada item demografi, skala Likert lima mata dengan 26 item serta diikuti dengan menyenaraikan 3 aspek negatif dan 3 aspek positif penggunaan google drive. Akhir sekali, set penilaian berasaskan tugasan ini mengandungi 4 item terbuka tentang persepsi keseluruhan guru. Populasi sampel seramai 6 orang guru telah ditinjau menggunakan teknik persampelan bertujuan. Data untuk kajian ini dikumpulkan pada pertengahan bulan Jun 2021 iaitu semasa cuti sekolah Maktab Nasional. Hasil tinjauan dianalisis menggunakan statistik deskriptif asas serta analisis tematik berkod untuk menjawab soalan-soalan kajian. Keputusan daripada instrumen kajian menunjukkan bahawa penyelesaian awan adalah satu bentuk kerjasama rakan sebaya yang berkesan dikalangan guru. Selain itu, para peserta memberi penekanan bahawa proses pengurusan rekod penilaian pelajar telah meningkat dengan signifikan melalui pelaksanaan google drive.

Kata Kunci: Penyelesaian awan, kerjasama rakan sebaya, pemacu google, penilaian berasaskan tugas, soal selidik tinjauan

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LIST OF ABBREVIATIONS

APPS	Applications
ASQ	After-Scenario Questionnaire
GB	Gigabytes
IAAS	Infrastructure as a Service
ICT	Information and Communication Technology
IT	Information Technology
K-12	Kindergarten through 12th grade schools in the United States
NAE	National Academy of Engineering
NASA-TLX	National Aeronautics and Space Administration Task Load Index
NIST	National Institute of Standards and Technology
NRC	National Research Council
PAAS	Platform as a Service
PIM	Personal Information Management
SAAS	Software as a Service
SEQ	Single Ease Question
SMEQ	Subjective Mental Effort Questionnaire
SMS	Short Message Service
SUPR-Q	Standardized User Experience Percentile Rank Questionnaire
SUS	System Usability Scale
TBA	Task-Based Assessment
UME	Usability Magnitude Estimation

CHAPTER 1

INTRODUCTION

1.1 Research Background

Education is a fundamental right and is indispensable for the achievement of sustainable development. The benefits of education are endless. According to Federici (2011), "education is a gateway to success, an investment with return" because not only it has a tremendous impact and contribution to society, it gives equal opportunity to individuals an improved way of life with better job, economic, health and satisfying life prospects. The economy of a country will become stronger, crime rates and poverty will reduce when individual possess good education (Federici, 2011). As stated by American Psychological Association (2009), "a better educated country will be more prosperous; a less well-educated country will be weaker economically". For this matter, education systems have always relied on student information to effectively track student test scores, assess performance while report cards and disciplinary records used by guidance counsellors to ensure students are on track (Polonetsky & Jerome, 2014, p.3). Tests and examinations are important instruments to reflect a student's achievement in schools. It is implemented to fulfil the significant purpose to differentiate proficiency among students. According to Kapambwe (2010), "it is part of an evaluation and assessment process that are carried out to fulfilled academic requirement". Talib, Alomary and Alwadi (2018) added that "the measurement of student's performance has been dependent on the student's overall performance in sporting out obligations inclusive of quizzes,

assignments, mid examinations, projects and final exams". These elements are obligatory to classify students according to their skill and capability. Assigning A-F grades in report cards have long instituted in schools (Jacobsen, Saultz & Snyder, 2013), which shows how many students have a minimum or proficient level of knowledge (Clark, 2019).

To manage a high school and at the same time bringing together departments to achieve this mission has always been a big challenge for school management. School system needs to be transformed with technology-enabled automation tool to support the academic as well as its administrative processes simply because with this technology, they can achieve their goals effortlessly. According to Sriram (2019) in his article he stated that nowadays 'there is an emerging demand to modernize public education system with cloud, mobile and digital technologies to improve operational efficiency while managing the overall institution effectively, in order to succeed in everyday tasks of schools'. In order to support these reasoning, he (Sriram, 2019) had listed 10 commonly school management issues based on his observations, findings henceforth providing technological solutions that can be employed to remedy those issues:

Paper based processes

Educational institutions are burdened by cumbersome paperwork and manual processes and they will find it difficult to maintain records on attendance fees, admissions or transport and track the information they need. By using school management system, automate academic processes to save time and reduce staff workload.

Online Registration

Long queues to pay fees. By simplifying registration and fee collections with online forms with added ability to send automatic notifications, alerts and reminders via email, SMS alerts or push notifications from mobile devices.

Admission Management

Hard to achieve admission and enrolment targets. By aligning people processes and technology with simple and user-friendly cloud-based education solution will help institutions to manage information from inquiry and application to admission and enrolments.

Course Management

Designing a course curriculum that can adapt to the ever-changing needs of institution. Institutions can accomplish tremendously with limited resources by using a course management system that could create and track coursework, assignments, and exam papers in a conducive classroom environment to support the goal of graduating students.

Teacher Evaluation

Tracking the progress of teachers and evaluating the effectiveness of teachers' work is vital. By using a teacher evaluation system that enables improvement of communication and collaboration between evaluators and teachers. Meanwhile, students' feedback will measure teachers' performance in the classroom at the same time as the automated evaluation process improves student learning skills, achievement and success.

Communication and Collaboration

No platform to provide seamless communication between students, administrators, teachers and staffs. Moreover, increasing student discipline incidents happen as a result of big communication gap between students and teachers. By adapting web and mobile-based education management system ameliorates communication through instant notifications and alerts via email, SMS and push messages to keep all parties informed at every step of the journey to build relationship and improve student retention.

Classroom Management Strategy

Difficulties in handling students' tardiness and solving indiscipline and behavioural issues. By using discipline tracking and behaviour management system to efficiently handle tardy students and uninformed absences for classroom environment improvement.

Student Monitoring

Teachers are struggling to monitor students' activities that includes attendance, leave, discipline or assignments. School administrators are lacking in result-based monitoring tools to track student progress. With student information system, student attendance and absenteeism generally can be automated and streamlined offering real-time student activities status updates to support learning needs.

Revenue Management

Institution's difficulties to cope with the tracking and finances of fee collection and contributions. By seamlessly connect and engage with students and parents to strengthen relationship.

Forecasting Academic Achievement

Unable to manage information and experiencing endless delays in decision making based on complete analysis. By applying useful indicators such as dashboard reports and intelligent analytics so educators are able examine attendance, assignments, grades or predict student outcomes. The identification of students at-risk and resources deployment for the benefit of achievement and success improvement will greatly assist institutions for this purpose by using these data analytics.

(Sriram, 2019)

Thanks to ICT, the dream of collaboration using cloud anywhere and at any time has become true. Despite this level of interest in cloud collaboration, the main obstruction to its growth is the lack of access to the necessary technology infrastructure, for without it there can be no collaboration over the cloud. The main constraint is 'poor or insufficient technology infrastructure that can cause more damage than good to teachers' according to Naidu (2006); as quoted by Alshwaier et al. (2012) in their research journal.

Over the years, many authors and researchers in this subject matter such as Toby et al. (2009), Sarathy et al. (2010) and Robinson et al. (2011) had discussed this issue extensively that 'cloud solution is a new paradigm that provides efficient network login to an appropriate pool of computing resources which can be provided and released with just nominal assiduity and service providers reciprocity' in their respective research findings amongst their research peers. According to Alshwaier et al. (2012), these resources can be 'network servers, applications, platforms, infrastructure segments and services. Cloud solution is a technology that delivers services autonomously based on

demand and provides sufficient network access, data resource environment and effectual flexibility in the world today including educational institutions. Apart from that, cloud computing or solution can support education institutions by resolving some of the common challenges such as cost reduction, quick and effective communication, security, privacy, flexibility and accessibility (Justin et al, 2009). With its numerous benefits, it is expected to revolutionize the process of peer collaborations especially in the education institutions.

1.2 Problem Statement

Over the years, the methods adopted in Maktab Nasional for its students' assessment results are keyed in and analysed in an Excel spreadsheet to determine students' position in class and achievement, and stored locally on a master file in one personal computer shared by all 28 teachers. Teachers have to wait in turns to key-in marks data for each student in every subject they have taught. Often, this leads to wastage of time for the waiting interval between teachers, tendency of overwritten marks by mistake in the master file, inefficiency and decreases teachers' productivity. Data sharing and collaboration are impossible with the current method adapted in Maktab Nasional when these data are stored in only one desktop, one location, in the staffroom.

With cloud-based solution, multiple users from different locations are allowed to access these data that are stored in the cloud using a variety of devices (Kiryakova, 2017). This means that by adopting this method teachers may use any or their own computing devices such as laptop, tablets, iPad or mobile phone to work and collaborate together on shared documents in real time basis, and access the latest document version (Amirian, Hojjati, & Roozbahani, 2016) hence, increases collaboration productivity. As

the deadline for report card day approaching, each term there will be chaotic moments as stress and tension builds up for the teacher in charge tasked to complete this major compilation duty for the overall of Form 1 to Form 5 student records. Most of the time the final results are in question due to the hastiness of this whole process. Polonetsky and Jerome (2014) stated that 'when a significant portion of students are missing from a sample, any results would be skewed' clearly indicating the accuracy of student data and assessment records hugely impacts the evaluation process of student results in the school. Therefore, with cloud solution adaptation in the school it is most beneficial to the teachers so report cards can be generated in a timely manner without any human errors in the students' assessment records.

1.3 Research Objectives

The main research objective in this study is to investigate the capabilities and to evaluate the effectiveness of google drive solution implementation for the teachers in Maktab Nasional in managing student assessment records. Therefore, the specific objectives of this study are as follows:

1. To create a set of task-based assessment instrument in order to investigate the google drive solution when teachers use it collaboratively among peers in managing student assessment records.

2. To conduct a survey for the teachers to evaluate and rate the effectiveness of the google drive implementation in managing student assessment records.

3. To analyse the survey results descriptively and using Lund' Likert scale.

1.4 Research Questions

1. How does google drive solution able to manage student assessment records at Maktab Nasional secondary school?

2. How to evaluate the effectiveness of google drive implementation in managing student assessment record at Maktab Nasional secondary school?

1.5 Significance of the Research

The findings of this study will enable the teaching staffs of the secondary school that through cloud solution technology, peer collaboration within the school environment can be made possible. This technology have been widely regarded as a useful tool to support peer collaboration. Agcaoili (2012) further supported this technology that online collaboration tools and the all-encompassing 'cloud' have sprouted up as possible solution to facilitate collaboration. It examines teachers' use of digital tools to communicate and collaborate among themselves. Cloud is the new frontier of education computing and delivery of software and applications, and is rapidly overtaking the traditional in-house system as a reliable, scalable and cost-effective IT solution. Apart from that, this study should give teachers in Maktab Nasional an overview of the most significant advantages of cloud solution, its options for sharing ideal in peer collaboration in any work environment with its continuous, flexible and fast access to student data and information. By providing the benefits of cloud solution influencing peer collaboration among teachers, it is capable in offering efficiency towards the number of student records while maintaining hardware and software costs into a minimal. Hence, this research study should contribute in helping teachers of the school

by easing their tasks of the current problem faced in data entry through the adaptation of cloud solution in peer collaboration.

1.6 Definition of Terms

Cloud solution

According to Deputy (n.d.), cloud solution is an "on-demand services, computer networks, storage, applications or resources accessed via the internet and through another provider's shared cloud computing infrastructure, with benefits that include increased capacity, scalability, functionality, and reduced maintenance and cost for computer infrastructure or in-house staff".

Peer-to-peer

According to Lexico (n.d.), peer-to-peer refers to "denoting or relating to networks in which each computer can act as a server for the other, allowing shared access to files and peripherals without the need for a central server".

Peer collaboration

According to Davis (2020), peer collaboration among teachers refers to "when teachers come together to share information, resources, ideas and learning expertise; purposefully building interpersonal relationship and working towards healthy interdependence, which occurs when teachers are comfortable giving and receiving help without forfeiting accountability".

Google drive

According to Beal (2021), google drive is a “personal cloud storage service from Google that lets users store and synchronize digital content across computers, laptops and mobile devices including Android-powered tablet and smartphones devices”.

Task-based assessment

According to Brindley (1994), task-based assessment (TBA) is defined as “the process of evaluating, in relation to a set of explicitly stated criteria, the quality of the communicative performances elicited from learners as part of goal-directed, meaning-focused language use requiring the integration of skills and knowledge”.

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APPENDICES

Appendix A

Dear Respondent,

Thank you for your willingness in participating in this survey. The aim of this research is to examine the **adaptation of cloud solution for peer collaboration work among teachers** in Maktab Nasional.

There are 2 sections in this research; **SECTION A** (Task-Based Assessment) & **SECTION B** (Respondent Survey). In Section A, you are required to carry out 3 computer-based practical tasks. A manual for each task is provided to assist you. In Section B, you are required to answer the survey which consists of Part A (Demographic Profile), Part B (Ease of Use) and Part C (Overall Perception).

Please note that this research is purely for academic purposes. Your responses will be treated with a high degree of confidentiality and the data will be presented in such a way that your identity will not be connected with specific published data.

Shall there be any queries or clarification, kindly contact the researcher, Romella Marie Sipaul. Your corporation in completing this questionnaire survey is greatly appreciated.

Thank you,

Yours Sincerely,

Romella Marie Sipaul
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Romella Marie Sipaul is a Master of Information Technology (MIT) postgraduate student from Open University Malaysia where this research is designed to get an in-depth insight of the topic for her data analysis and quality improvement of teachers' collaboration in Maktab Nasional using cloud solution.

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SECTION A (TASK-BASED ASSESSMENT)

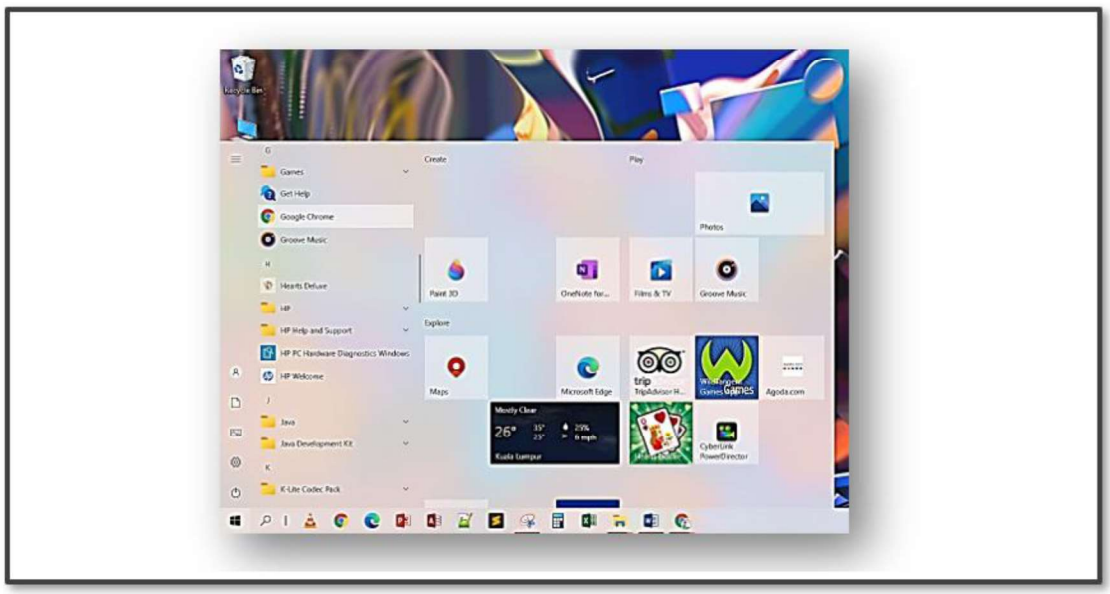
TASK-BASED ASSESSMENT #1: ACCESSING GOOGLE DRIVE

Instruction 1:
Login into your Google Drive and Google Sheets account using the school domain.

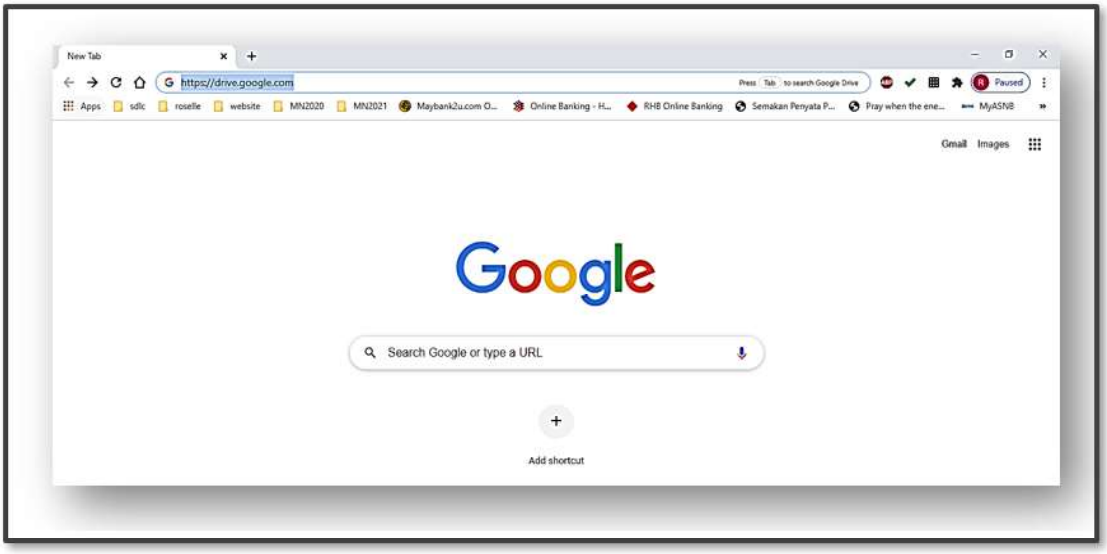
Instruction 2:
Create a shortcut of your Google Drive and Google Sheets account on your desktop.

Task Manual 1.1 – Using Google Drive on desktop / laptop

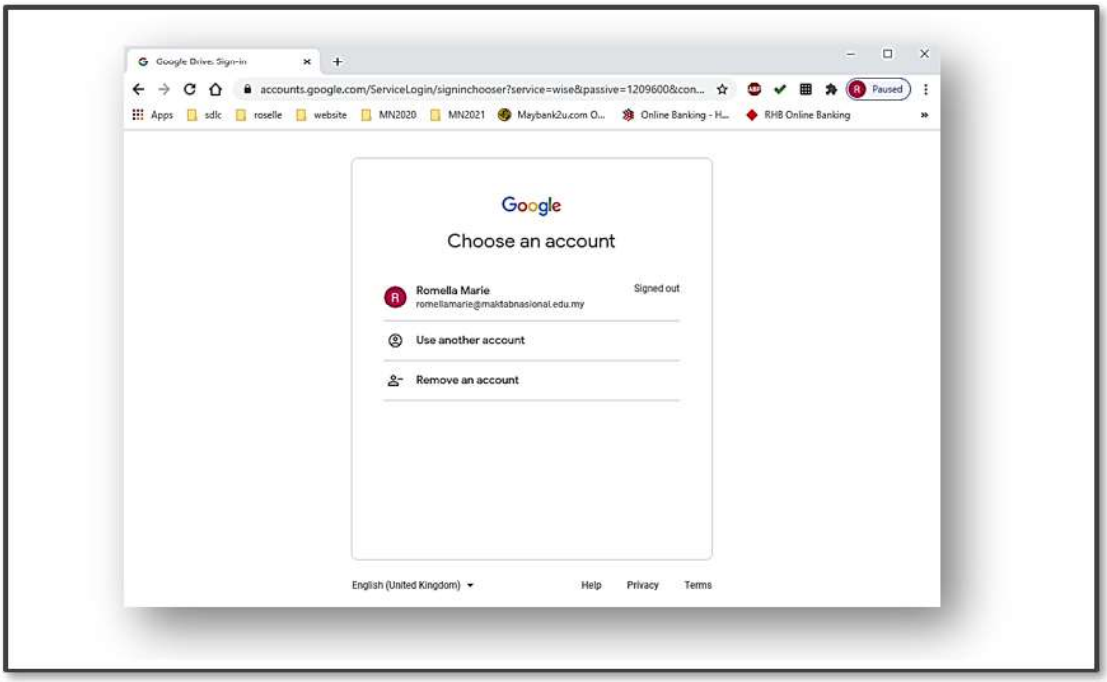
Step 1: Open Google Chrome web browser from your computer.



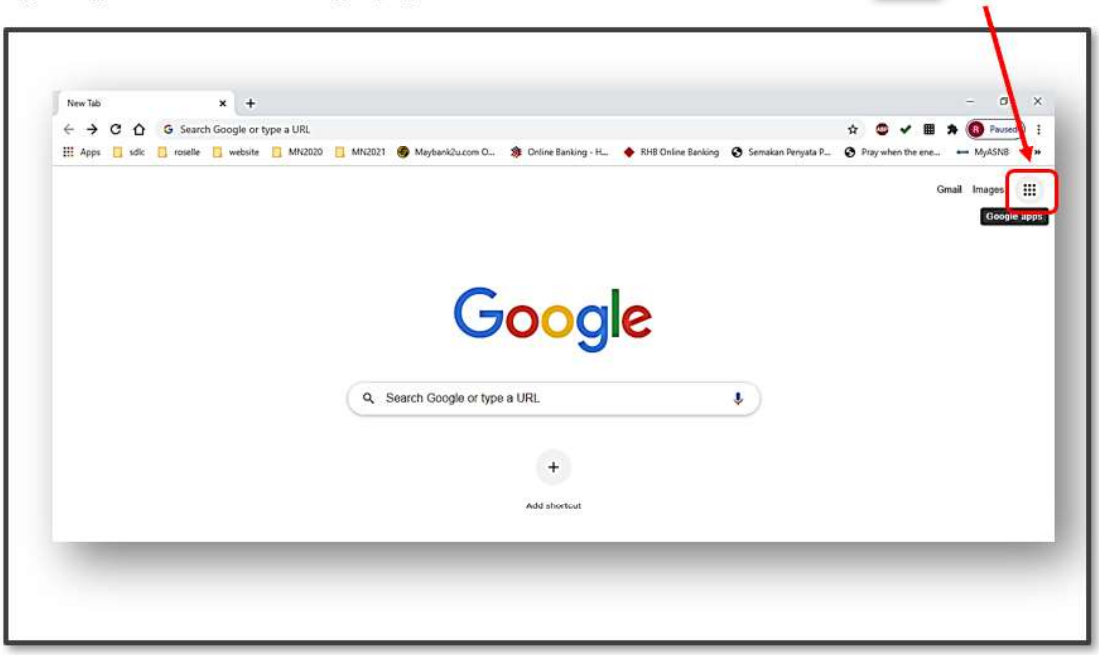
Step 2: Type **https://drive.google.com** in the address bar and press **Enter** from the keyboard.



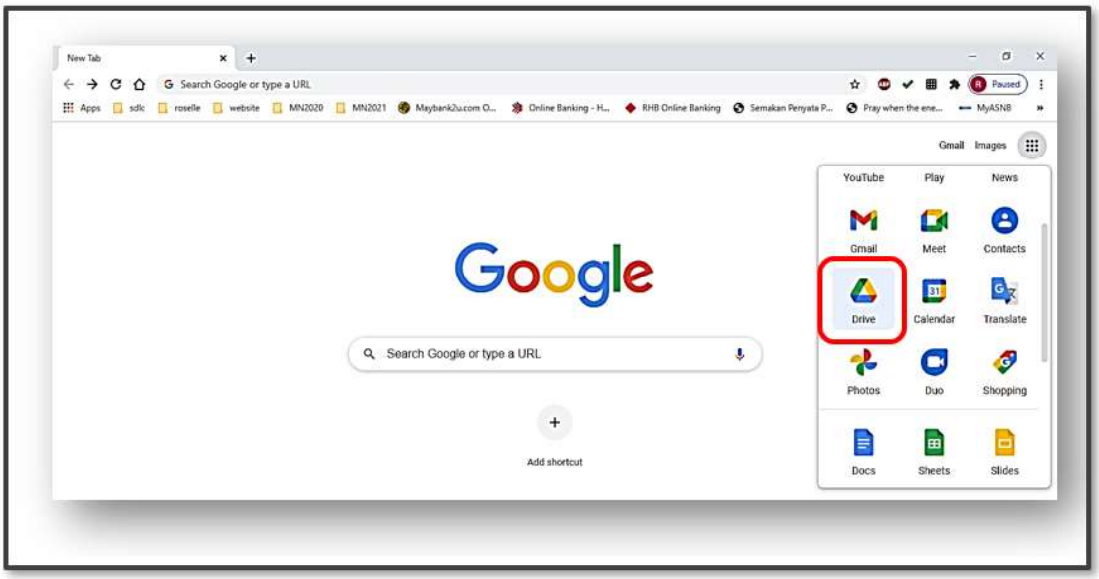
Step 3: Choose your account and sign in using your Maktab Nasional email address domain.



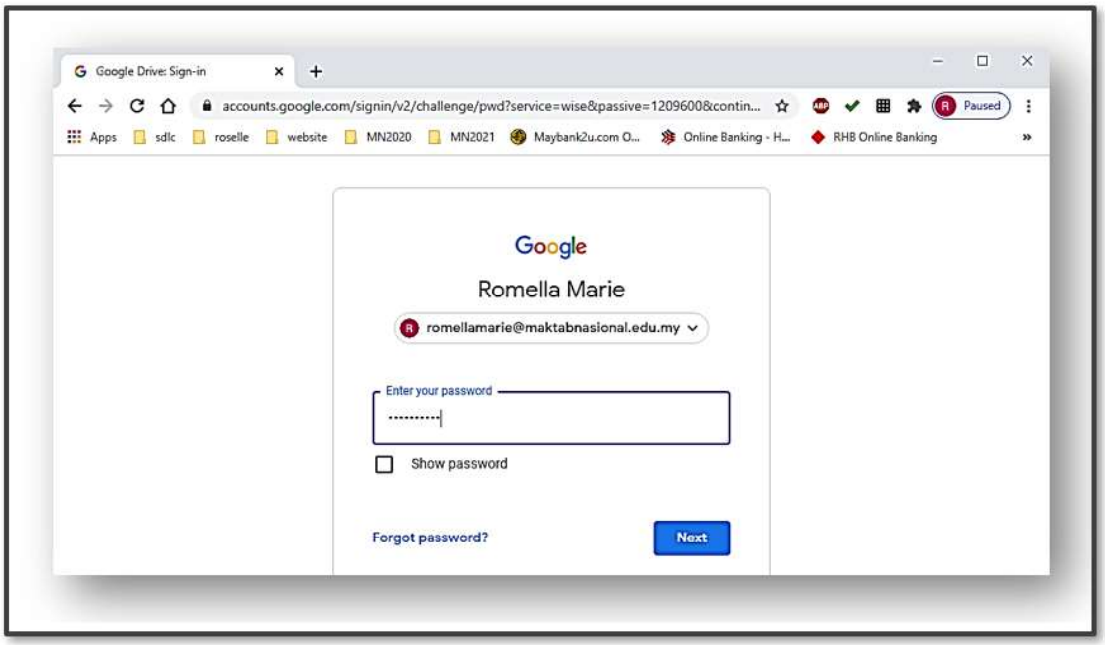
Step 4: You can also access Step 3 by clicking the Google Apps launcher located at the upper right corner of the Google page.



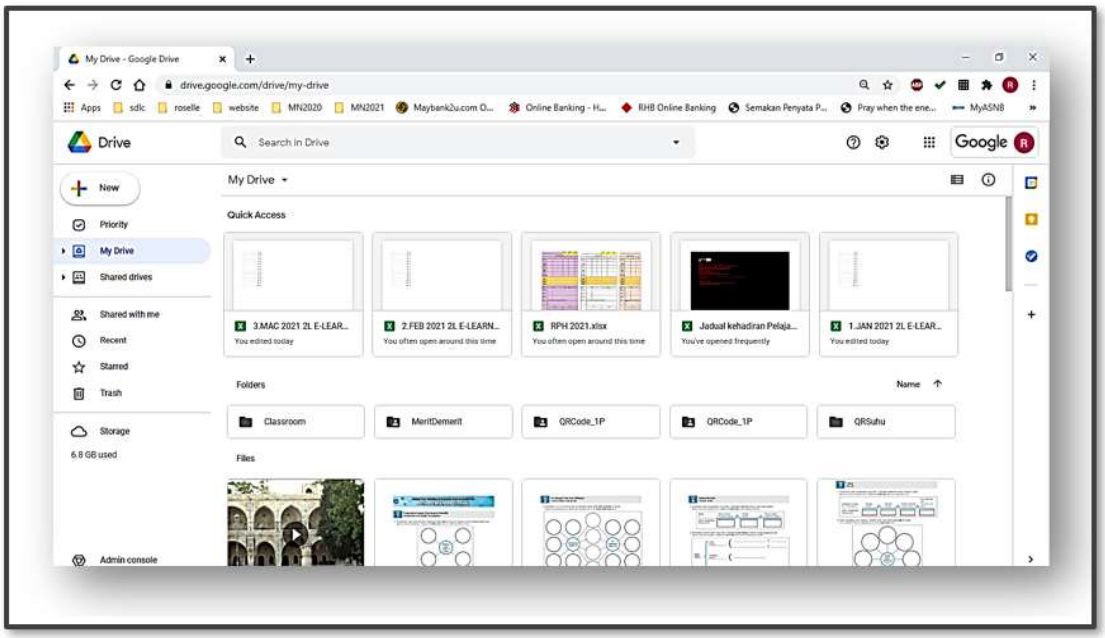
Step 5: Choose and click **Drive**. Similarly, Step 3 will be displayed.



Step 6: Type in your password and click **Next**.

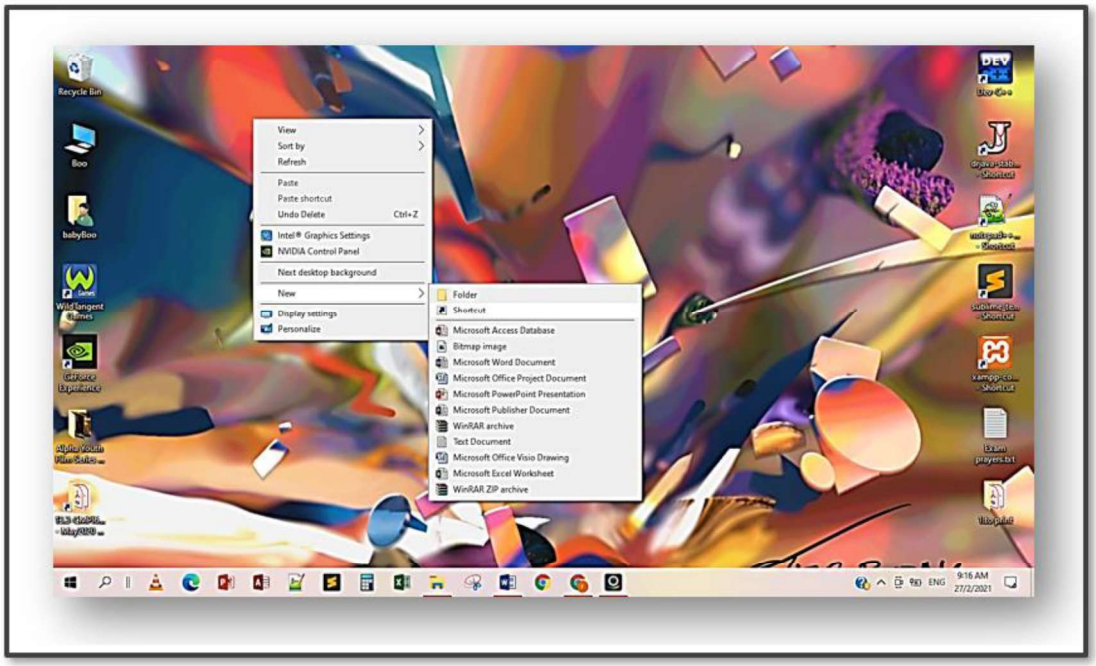


Step 7: Your Google Drive page is displayed upon successful sign in.

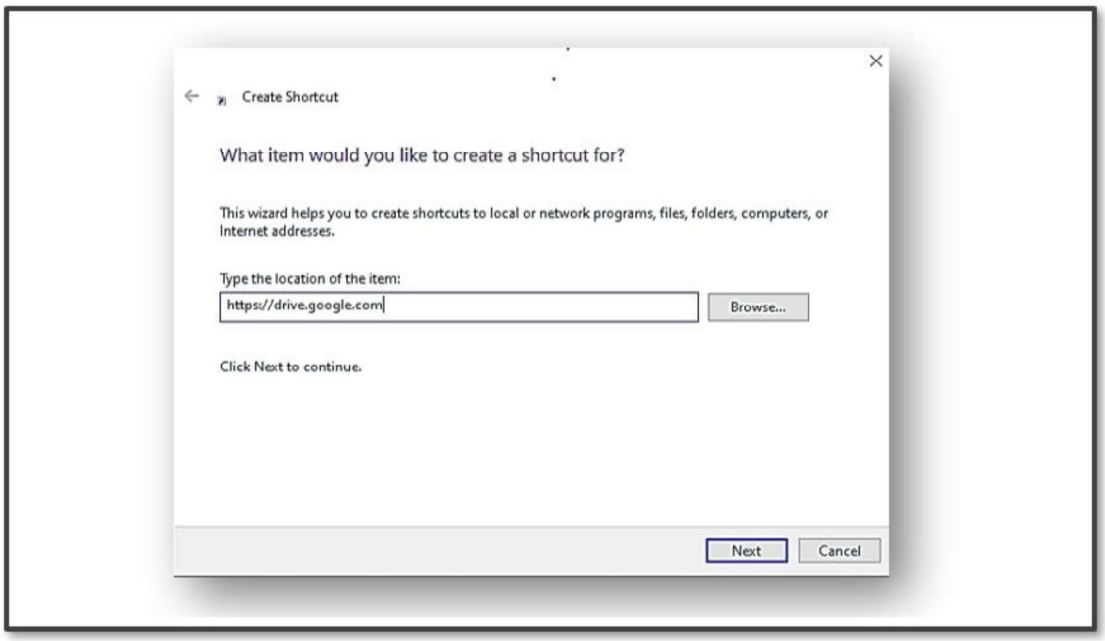


Task Manual 1.2 – Creating Google Drive desktop shortcut (Windows only)

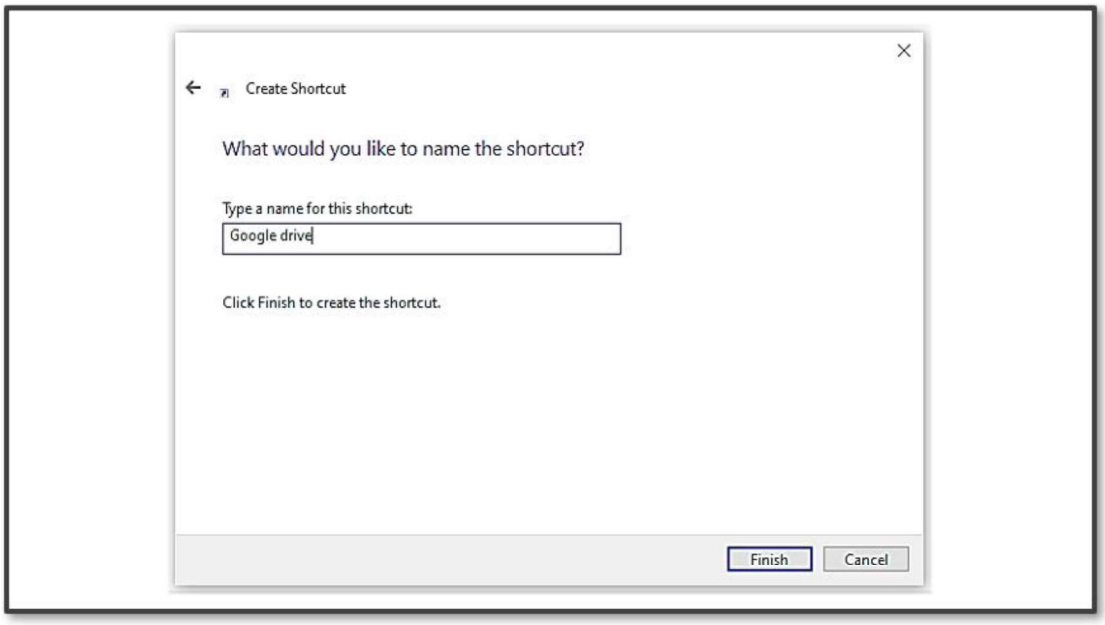
Step 1: On your desktop, right-click, choose **New** and **Shortcut.**



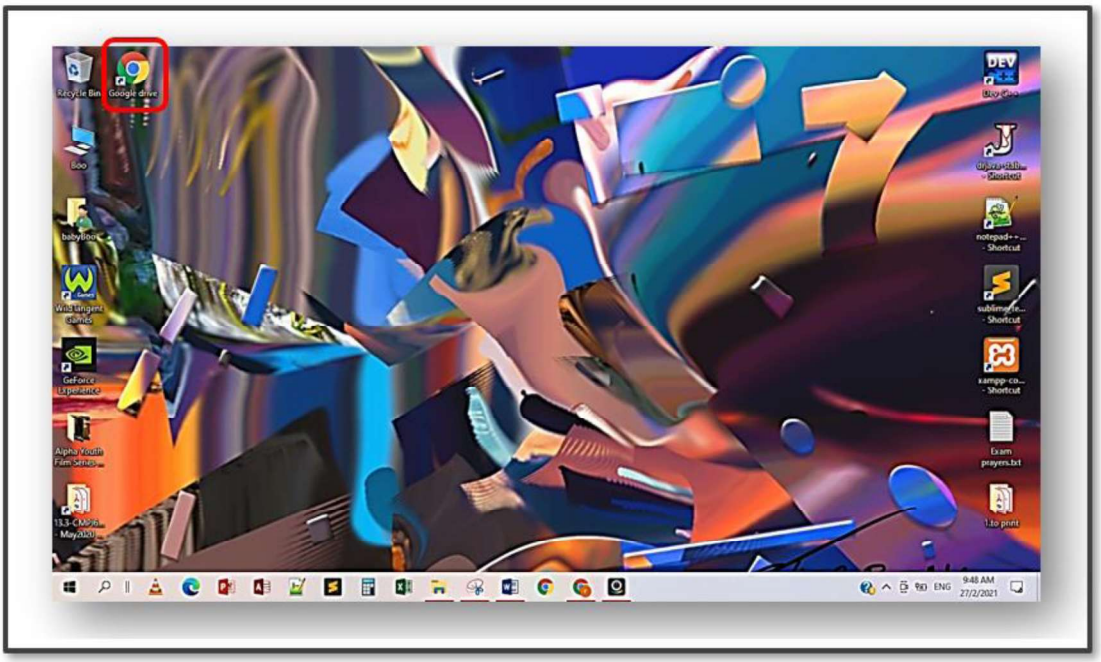
Step 2: The **Create Shortcut** message box is displayed. Type https://drive.google.com in the 'Type the location of the item' box then click **Next**.



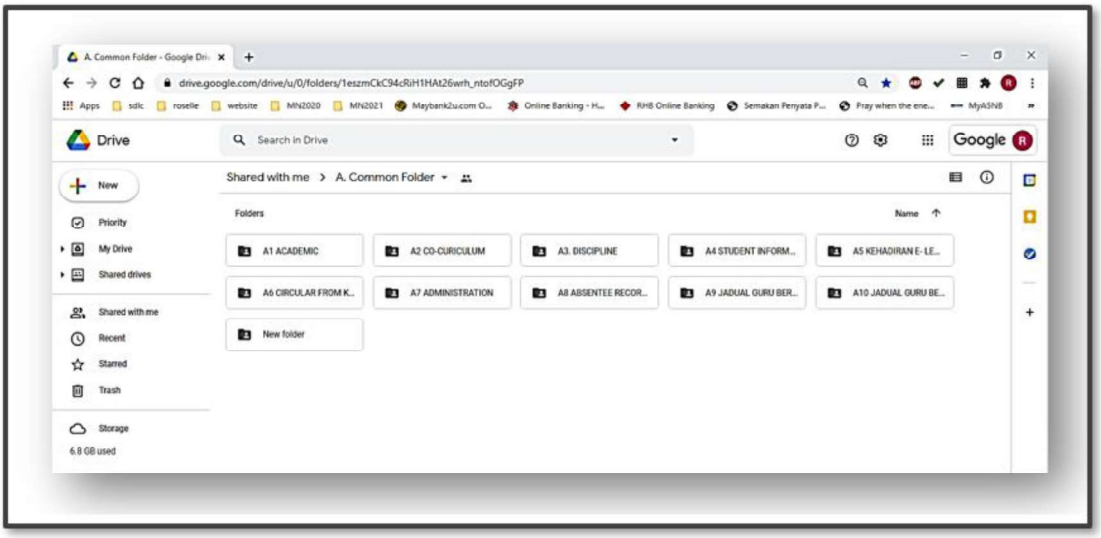
Step 3: The **Create Shortcut** message box is displayed. Type **Google Drive** in the 'Type a name for this shortcut' box as the shortcut name on your desktop. Then click **Finish.**



Step 4: The new Google Drive shortcut created successfully.

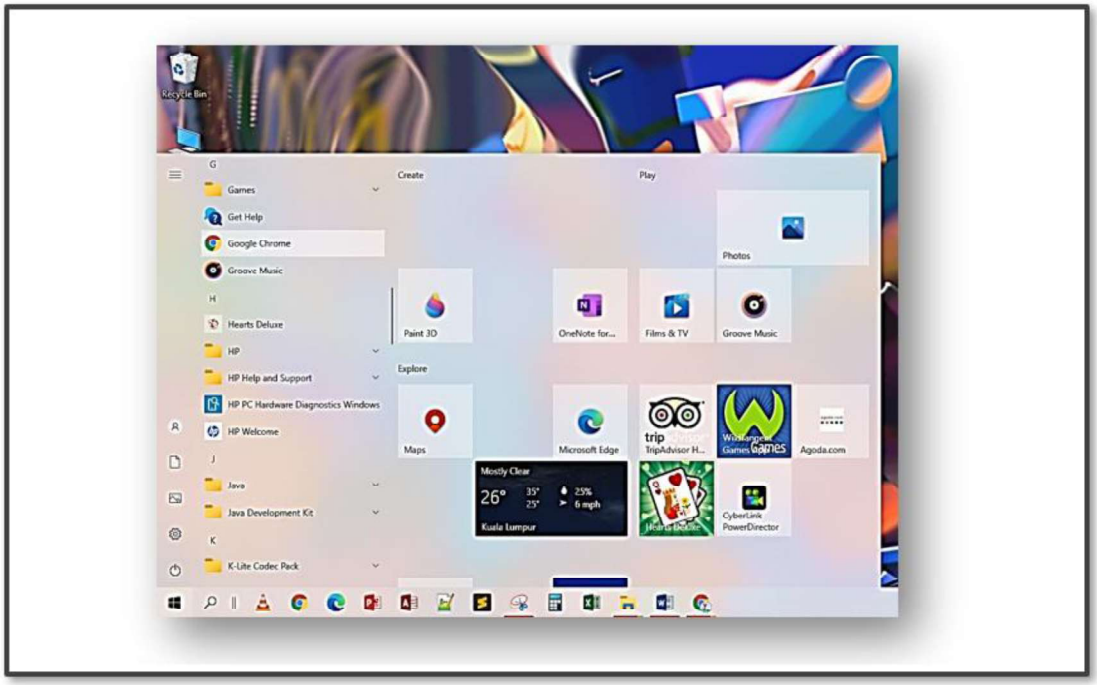


Step 5: When the Google Drive shortcut is clicked, your Google Drive page is displayed upon successful sign in.

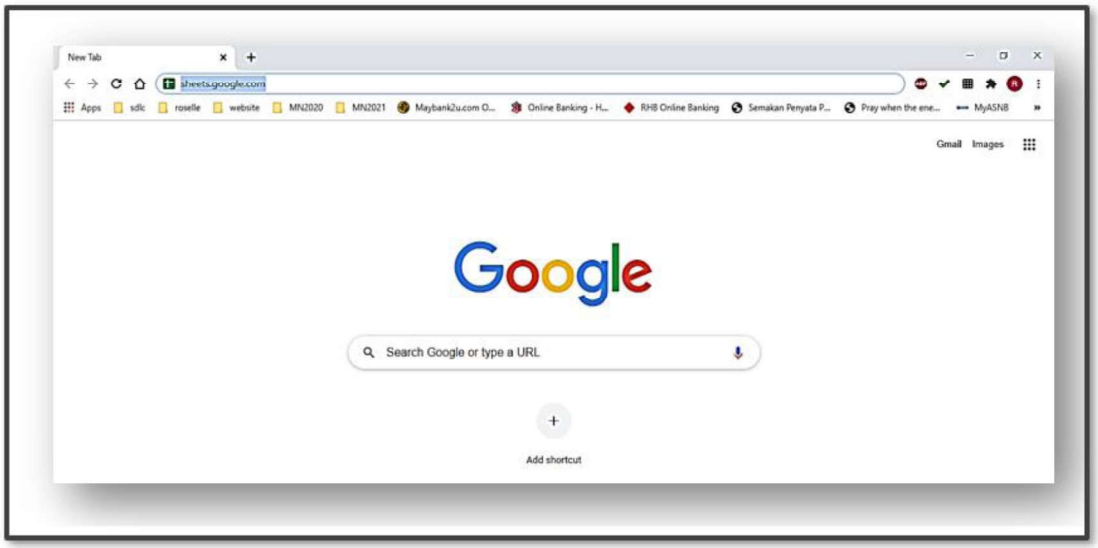


Task Manual 1.3 – Using Google Sheets on desktop / laptop

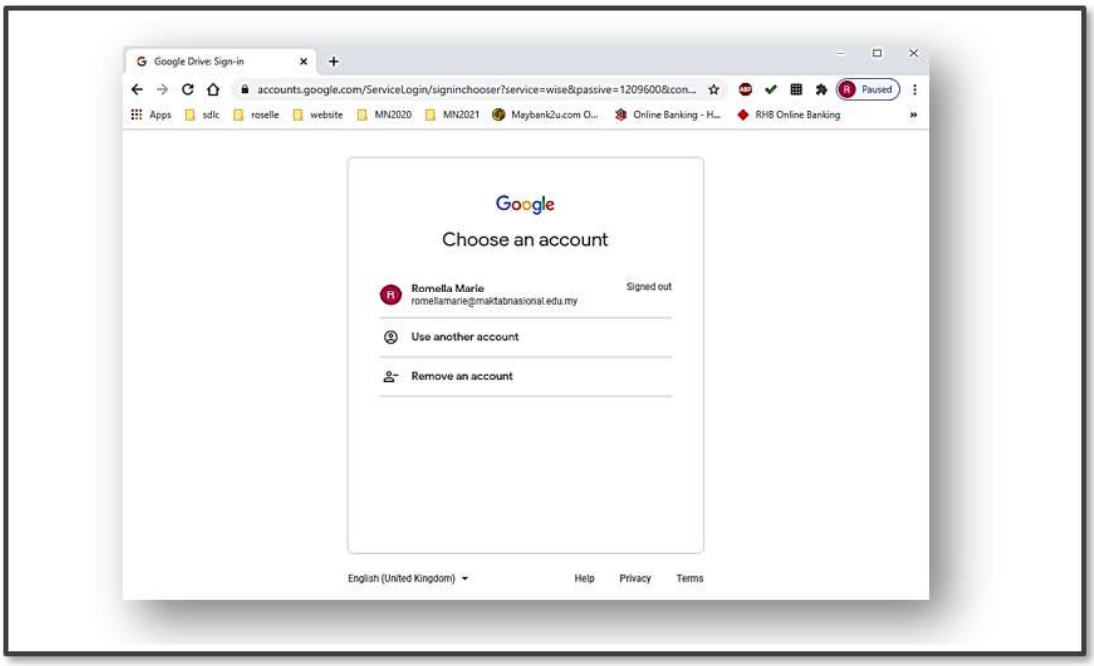
Step 1: Open Google Chrome web browser from your computer.



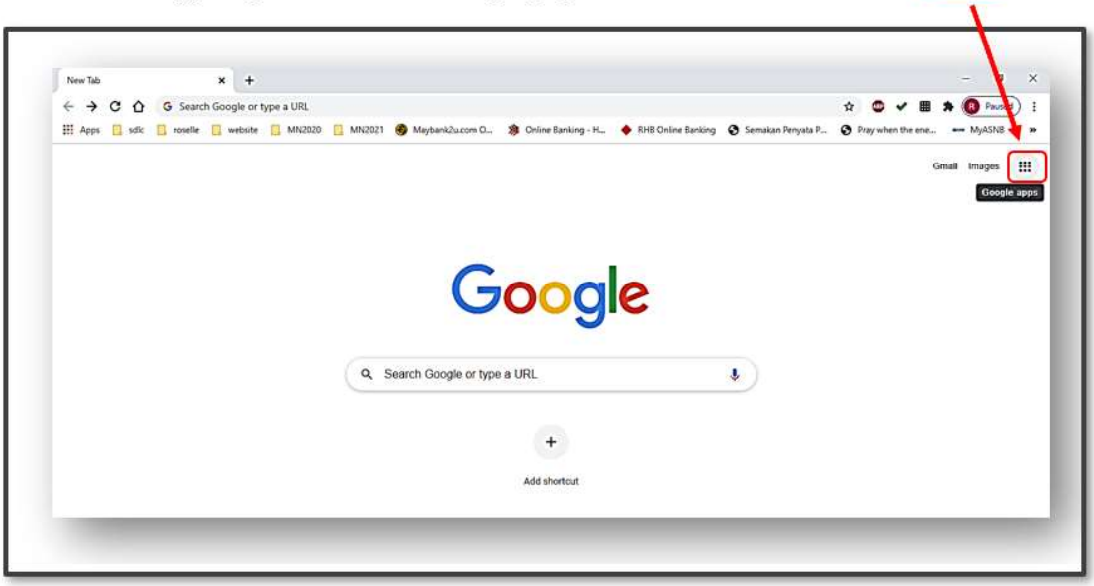
Step 2: Type **https://sheets.google.com** in the address bar and press **Enter** from the keyboard.



Step 3: Choose your account and sign in using your Maktab Nasional email address domain.

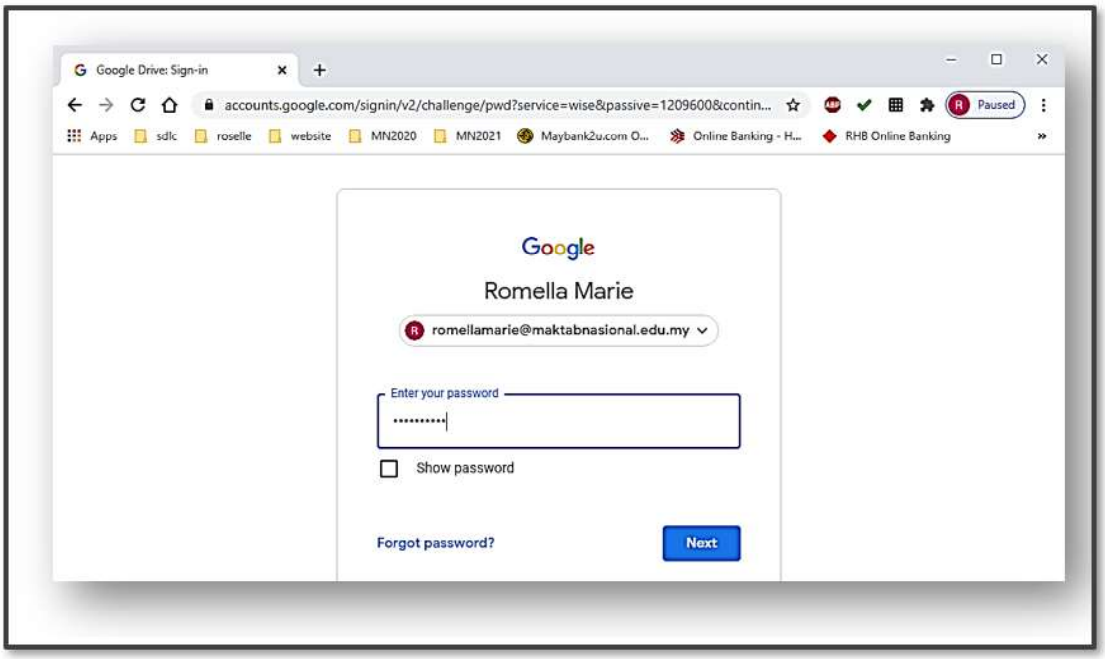


Step 4: You can also access Step 3 by clicking the Google Apps launcher located at the upper right corner of the Google page.

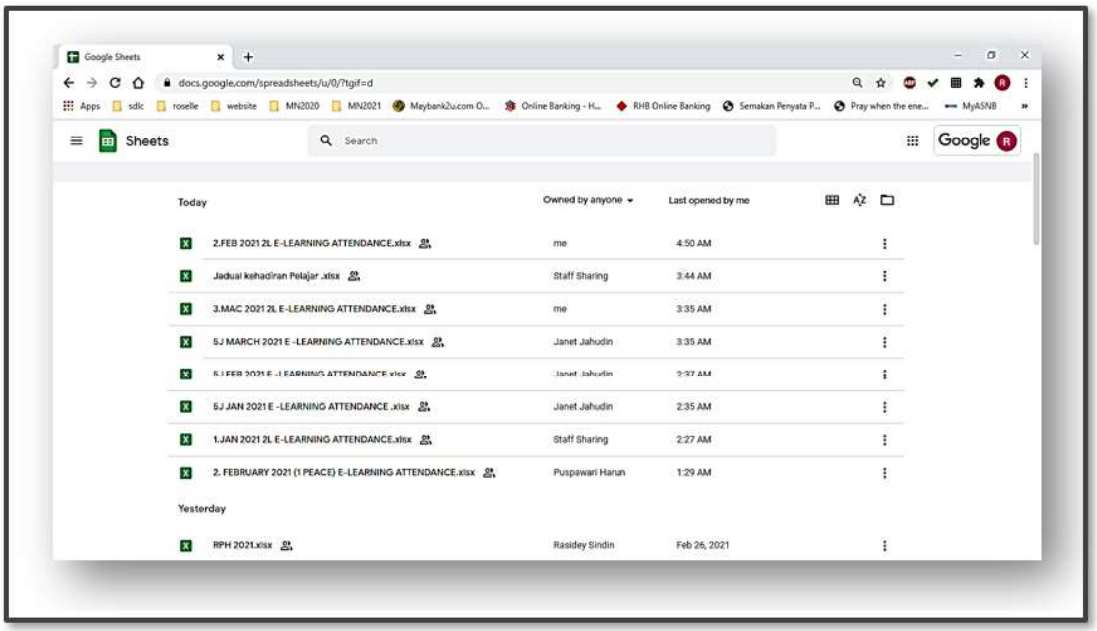


Step 5: Choose and click **Sheets**. Similarly, Step 3 will be displayed.

Step 6: Type in your password and click **Next.**

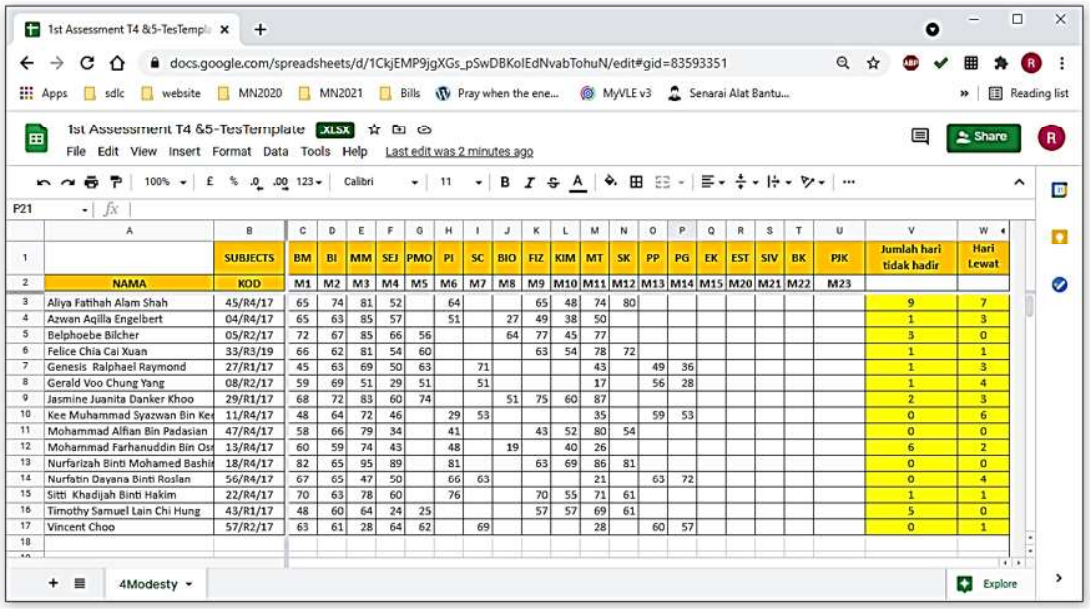


Step 7: Your shared Google Sheets page opens, displaying all your most frequently used files upon successful sign in.



TASK-BASED ASSESSMENT #2: PERFORM BASIC OPERATIONS

A. Given below is the sheets of Form 4 Modesty first assessment in Google Drive. Based on this, carry out the following instructions.



1st Assessment T4 &5-TesTemplate .XLSX

File Edit View Insert Format Data Tools Help Last edit was 2 minutes ago

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1		SUBJECTS	BM	BI	MM	SEJ	PMO	PI	SC	BIO	FIZ	KIM	MT	SK	PP	PG	EK	EST	SIV	BK	PJK	Jumlah hari tidak hadir	Hari Lewat
2	NAMA	KOD	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M20	M21	M22	M23		
3	Aliya Fatihah Alam Shah	45/R4/17	65	74	81	52		64			65	48	74	80								9	7
4	Azwan Aqilla Engelbert	04/R4/17	65	63	85	57		51		27	49	38	50									1	3
5	Belphoebe Bilcher	05/R2/17	72	67	85	66	56			64	77	45	77									3	0
6	Felice Chia Cai Xuan	33/R3/19	66	62	81	54	60				63	54	78	72								1	1
7	Genesis Ralphael Raymond	27/R1/17	45	63	69	50	63		71				43		49	36						1	3
8	Gerald Voo Chung Yang	08/R2/17	59	69	51	29	51		51				17		56	28						1	4
9	Jasmine Juanita Danker Khoo	29/R1/17	68	72	83	60	74			51	75	60	87									2	3
10	Kee Muhammad Syazwan Bin Ke	11/R4/17	48	64	72	46		29	53				35		59	53						0	6
11	Mohammad Alfian Bin Padasian	47/R4/17	58	66	79	34		41			43	52	80	54								0	0
12	Mohammad Farhanuddin Bin Os	13/R4/17	60	59	74	43		48		19		40	26									6	2
13	Nurfarizah Binti Mohamed Bashi	18/R4/17	82	65	95	89		81			63	69	86	81								0	0
14	Nurfatin Dayana Binti Roslan	56/R4/17	67	65	47	50		66	63				21		63	72						0	4
15	Sitti Khadijah Binti Hakim	22/R4/17	70	63	78	60		76			70	55	71	61								1	1
16	Timothy Samuel Lain Chi Hung	43/R1/17	48	60	64	24	25				57	57	69	61								5	0
17	Vincent Choo	57/R2/17	63	61	28	64	62		69				28		60	57						0	1
18																							

4Modesty

NOTE: If you require guide / assistance to complete the following instructions, please refer to Task Manuals 2.1 – 2.7 (page 18-31)

Instruction 1:

Add 3 new columns between columns Q & R, to add/insert subjects **PS** (KOD-**M16**), **GEO** (KOD-**M18**) and **LIT** (KOD-**M19**).

Instruction 2:

Next, add 4 new rows between rows 8 & 9, to add students **Isabelle, Izzah**, **Jac** and **Oh Yejin**.

Instruction 3:

Insert the following assessment records at the newly added rows for:

Isabelle (BM – **61**, BI – **72**, MM – **78**, SEJ – **52**, MT – **55**)
Izzah (BM – **57**, BI – **67**, MM – **71**, SEJ – **60**, MT – **50**)
Jac (BM – **61**, BI – **63**, MM – **50**, SEJ – **63**, MT – **26**)
Oh Yejin (BM – **64**, BI – **67**, MM – **47**, SEJ – **56**, MT – **53**)

Instruction 4:

Select **Oh Yejin** records and move it below Nurfatin Dayana Binti Roslan's records. Change Oh Yejin's BM marks to **100**. Delete Sitti's BM mark and let the cell be empty.

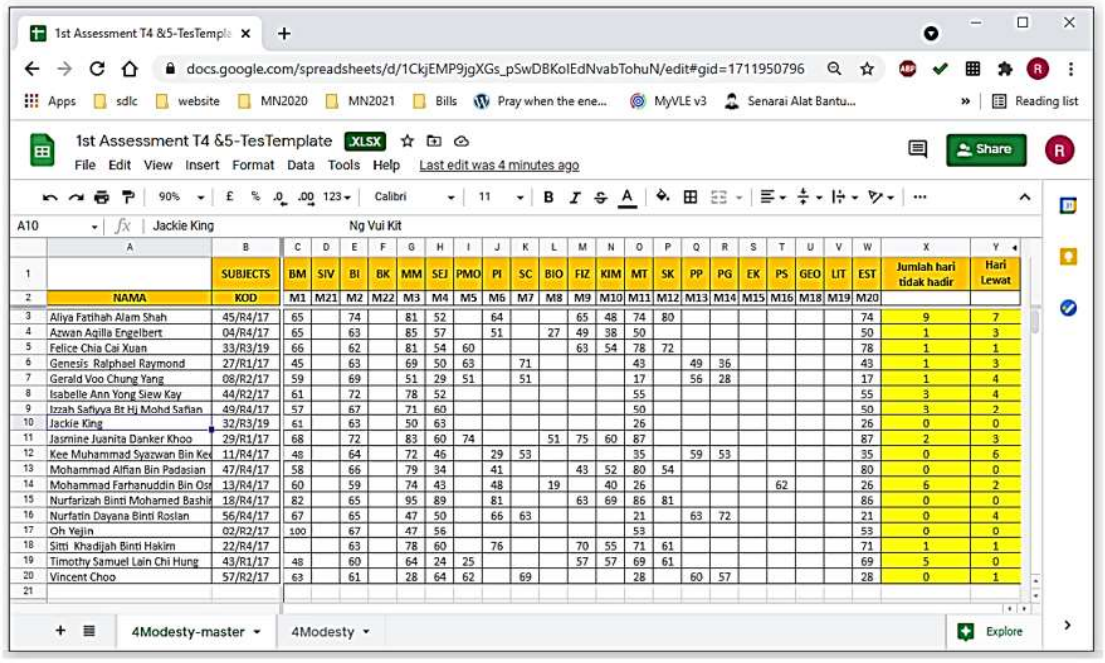
Instruction 5:
Select and delete **Belphoebe Bilcher** records (row 5). Select and delete the **PJK** column.

Instruction 6:
Move column subject **SIV** between columns subjects **BM & BI** and move column subject **BK** between columns subjects **BI & MM.**

Instruction 7:
Copy all the subject **MT** marks and paste all marks into the subject **EST** column.

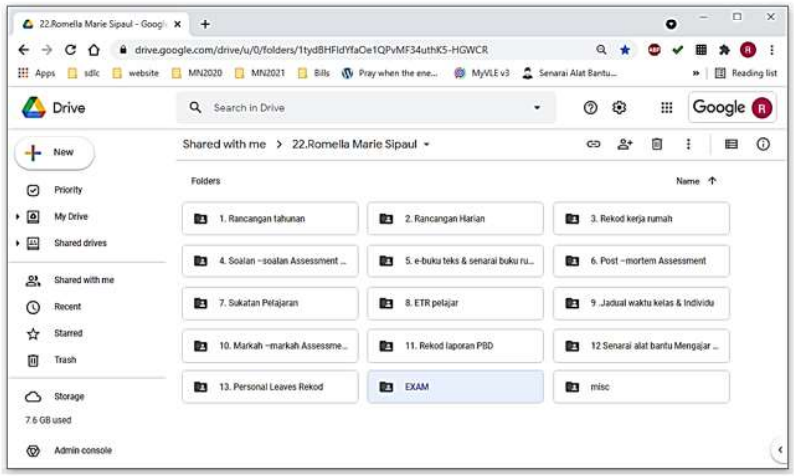
Instruction 8:
Search for student Jac Ng Vui Kit and replace name with **Jackie King.**

Final result of the sheets should be similar as below
(will be shown / displayed to respondents once all instructions above are completed)



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
1		SUBJECTS	BM	SIV	BI	BK	MM	SEJ	PMO	PI	SC	BIO	FIZ	KIM	MT	SK	PP	PG	EK	PS	GEO	LIT	EST	Jumlah hari tidak hadir	Hari Lewat
2	NAMA	KOD	M1	M21	M2	M22	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M18	M19	M20		
3	Aliya Fatihah Alam Shah	45/R4/17	65		74		81	52		64			65	48	74	80							74	9	7
4	Azwan Aqilla Engelbert	04/R4/17	65		63		85	57		51		27	49	38	50								50	1	3
5	Felice Chia Cai Xuan	33/R3/19	66		62		81	54	60				63	54	78	72							78	1	1
6	Genesis Ralphael Raymond	27/R1/17	45		63		69	50	63		71				43		49	36					43	1	3
7	Gerald Voo Chung Yang	08/R2/17	59		69		51	29	51		51				17		56	28					17	1	4
8	Isabelle Ann Yong Siew Kay	44/R2/17	61		72		78	52							55								55	3	4
9	Izzah Safiyya Bt Hj Mohd Safian	49/R4/17	57		67		71	60							50								50	3	2
10	Jackie King	32/R3/19	61		63		50	63							26								26	0	0
11	Jasmine Juanita Danker Khoo	29/R1/17	68		72		83	60	74			51	75	60	87								87	2	3
12	Kee Muhammad Syazwan Bin Ke	11/R4/17	48		64		72	46		29	53				35		59	53					35	0	6
13	Mohammad Alfian Bin Padasian	47/R4/17	58		66		79	34		41			43	52	80	54							80	0	0
14	Mohammad Farhanuddin Bin Osr	13/R4/17	60		59		74	43		48		19		40	26					62			26	6	2
15	Nurfarizah Binti Mohamed Bashir	18/R4/17	82		65		95	89		81			63	69	86	81							86	0	0
16	Nurfatin Dayana Binti Roslan	56/R4/17	67		65		47	50		66	63				21		63	72					21	0	4
17	Oh Yejin	02/R2/17	100		67		47	56							53								53	0	0
18	Sitti Khadijah Binti Hakim	22/R4/17			63		78	60		76			70	55	71	61							71	1	1
19	Timothy Samuel Lain Chi Hung	43/R1/17	48		60		64	24	25				57	57	69	61							69	5	0
20	Vincent Choo	57/R2/17	63		61		28	64	62		69				28		60	57					28	0	1
21																									

B. Given below is the google drive to store Form 4 Modesty first assessment. Based on this, carry out the following instructions.

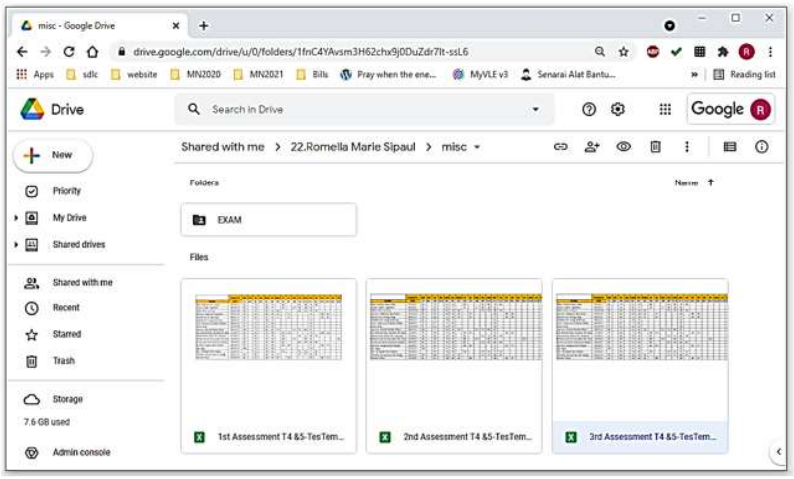


Instruction 1:

Create a new folder in the drive above and name it as **EXAM.** Then, move it into the **misc** folder.

Instruction 2:

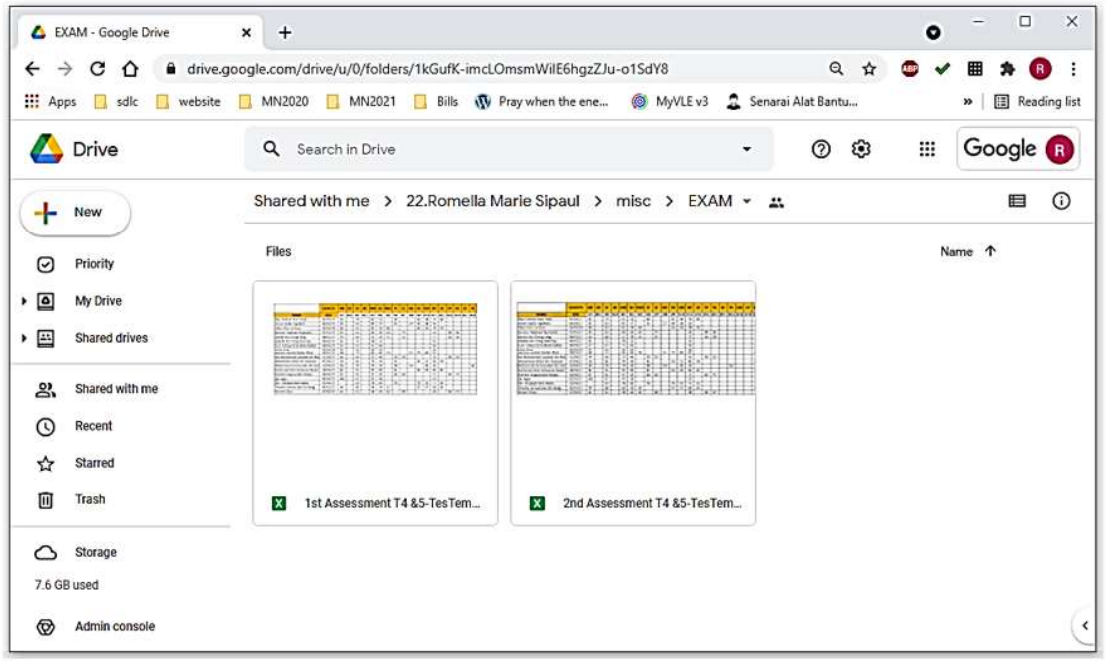
Next, make 2 copies of the file 1st Assessment T4 &5-TesTemplate.xlsx and rename those copies as **2nd Assessment T4 &5-TesTemplate.xlsx** and **3rd Assessment T4 &5-TesTemplate.xlsx** (shown below)



Instruction 3:

Move all 3 files into the EXAM folder. Lastly, delete file **3rd Assessment T4 &5-TesTemplate.xlsx.**

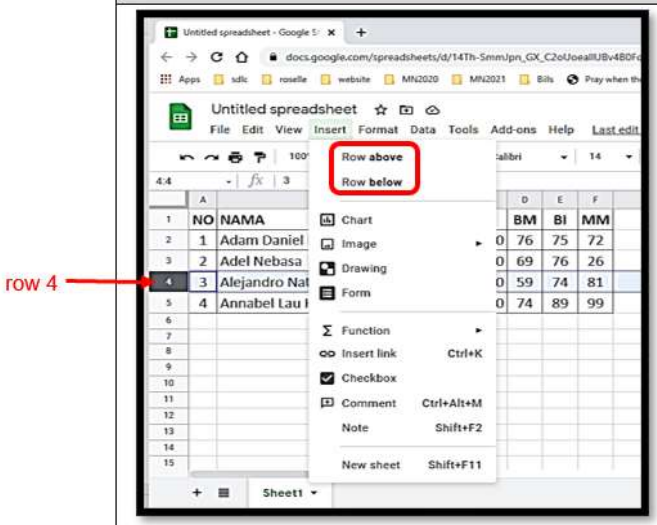
Final result of the Google Drive should be similar as below
(will be shown / displayed to respondents once all instructions above are completed)



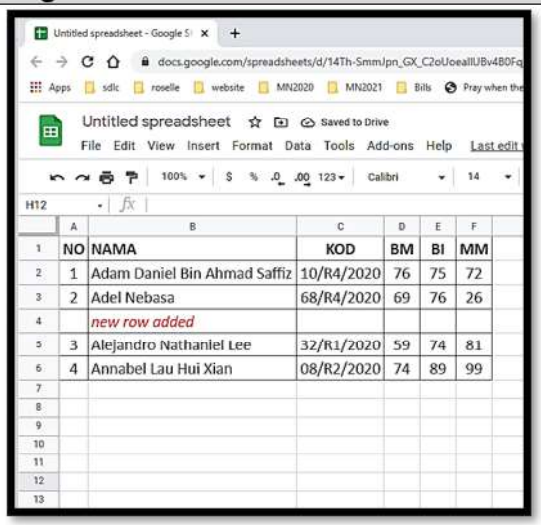
Task Manual 2.1 – Add, delete and move rows / columns in spreadsheets

Row runs horizontally while Column runs vertically. Each row is identified by row number, which runs vertically at the left side of the sheet. Each column is identified by column header, which runs horizontally at the top of the sheet.

A. Adding row

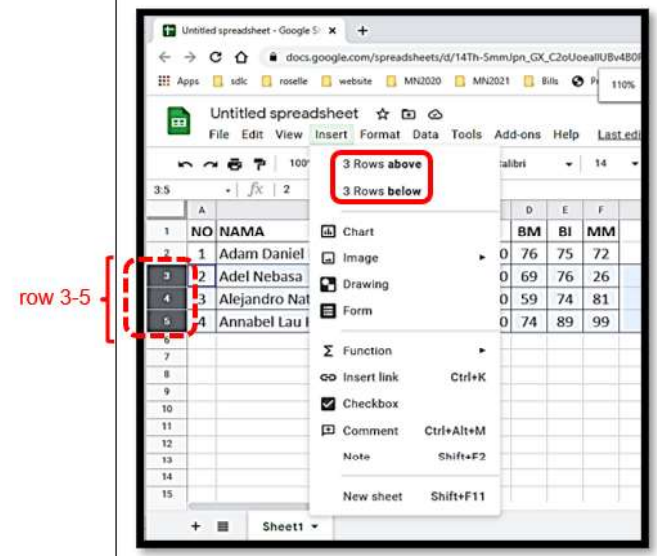


i. To **add one row**, position cursor on **row 4**, and select **Insert**. Row can be adde8d **above or below** row 4.

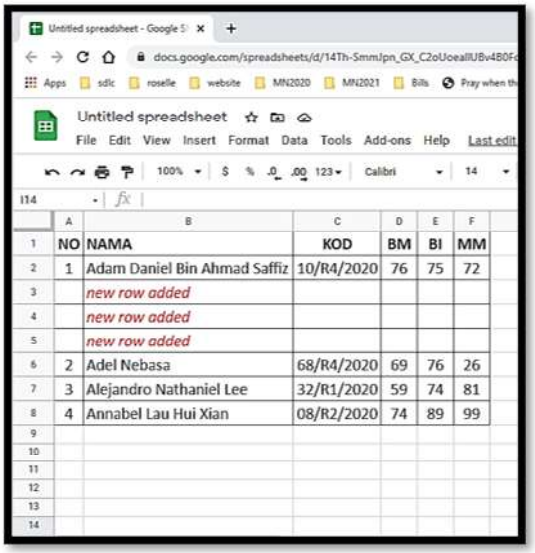


	A	B	C	D	E	F
1	NO	NAMA	KOD	BM	BI	MM
2	1	Adam Daniel Bin Ahmad Saffiz	10/R4/2020	76	75	72
3	2	Adel Nebasa	68/R4/2020	69	76	26
4		*new row added*				
5	3	Alejandro Nathaniel Lee	32/R1/2020	59	74	81
6	4	Annabel Lau Hui Xian	08/R2/2020	74	89	99

ii. Result: 1 row added.



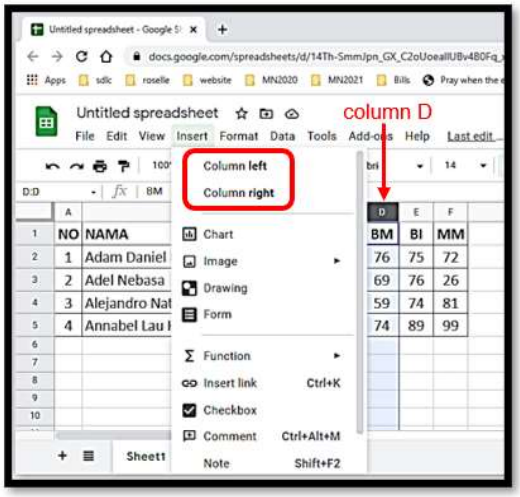
iii. To **add more than one row**, position cursor on **rows 3-5**, and select **Insert**. Rows can be added **above or below** row 3-5.



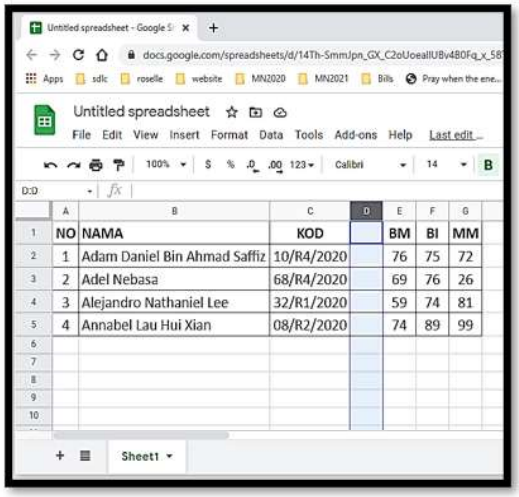
	A	B	C	D	E	F
1	NO	NAMA	KOD	BM	BI	MM
2	1	Adam Daniel Bin Ahmad Saffiz	10/R4/2020	76	75	72
3		*new row added*				
4		*new row added*				
5		*new row added*				
6	2	Adel Nebasa	68/R4/2020	69	76	26
7	3	Alejandro Nathaniel Lee	32/R1/2020	59	74	81
8	4	Annabel Lau Hui Xian	08/R2/2020	74	89	99

iv. Result: 3 rows added.

B. Adding column

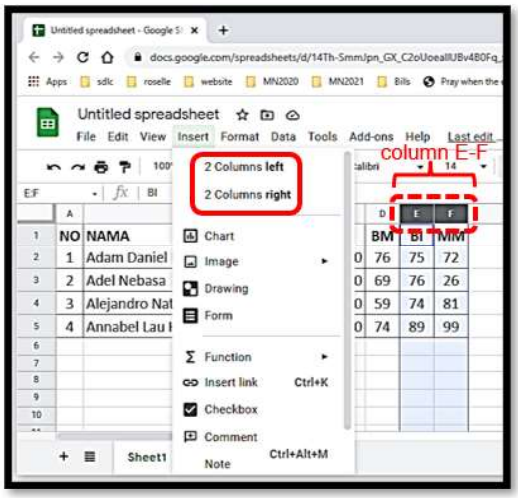


i. To **add one column**, position cursor on **column D**, and select **Insert**. Column can be added **left or right** column D.

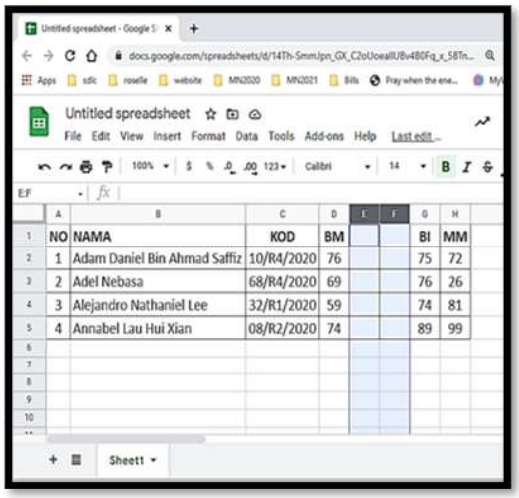


NO	NAMA	KOD	BM	BI	MM
1	Adam Daniel Bin Ahmad Saffiz	10/R4/2020	76	75	72
2	Adel Nebasa	68/R4/2020	69	76	26
3	Alejandro Nathaniel Lee	32/R1/2020	59	74	81
4	Annabel Lau Hui Xian	08/R2/2020	74	89	99

ii. Result: 1 column added.



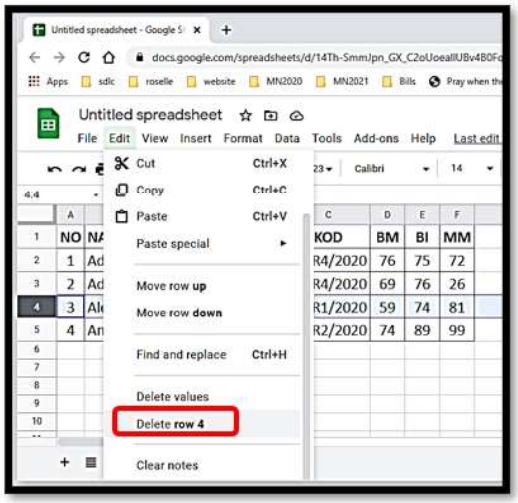
iii. To **add more than one column**, position cursor on **column E-F**, and select **Insert**. Columns can be added **left or right** column E-F.



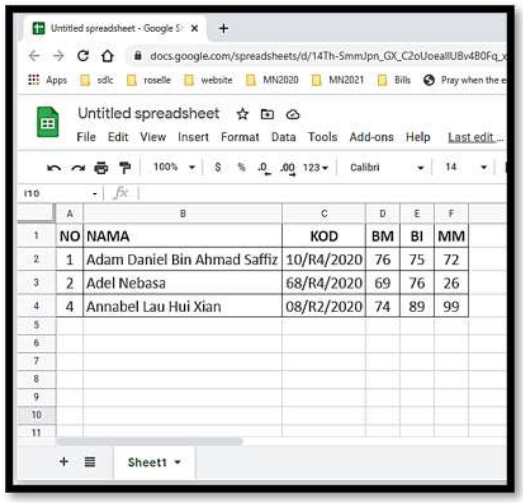
NO	NAMA	KOD	BM			BI	MM
1	Adam Daniel Bin Ahmad Saffiz	10/R4/2020	76			75	72
2	Adel Nebasa	68/R4/2020	69			76	26
3	Alejandro Nathaniel Lee	32/R1/2020	59			74	81
4	Annabel Lau Hui Xian	08/R2/2020	74			89	99

iv. Result: 2 columns added.

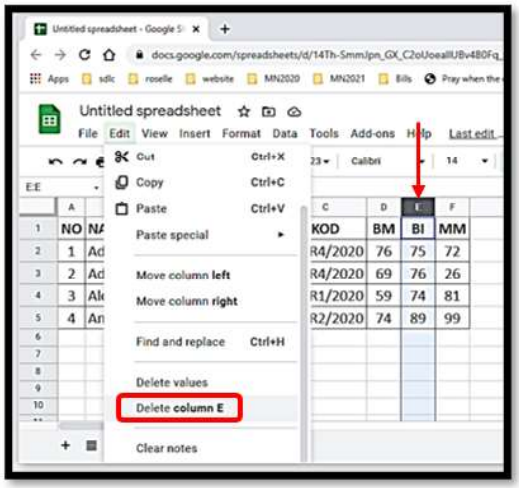
C. Deleting row and column



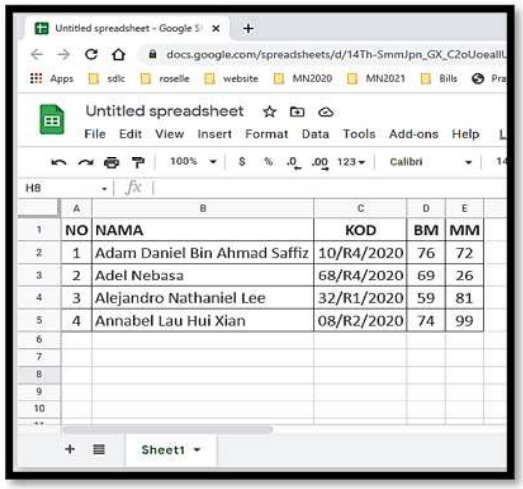
i. To **delete row**, position cursor on **row 4**, select **Edit**, and choose the **Delete row 4** option.



ii. Result: 1 row (Alejandro) deleted.

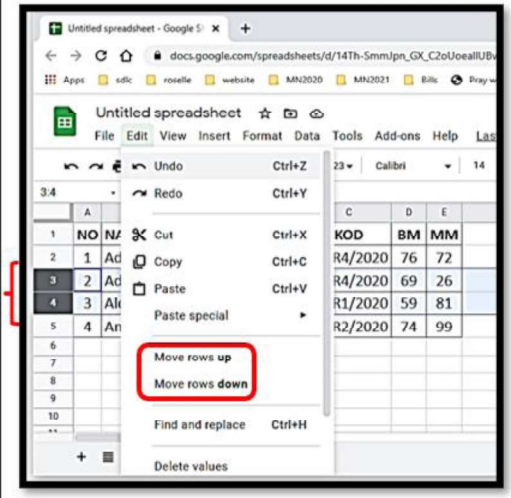


iii. To **delete column**, position cursor on **column E**, select **Edit**, and choose the **Delete column E** option.

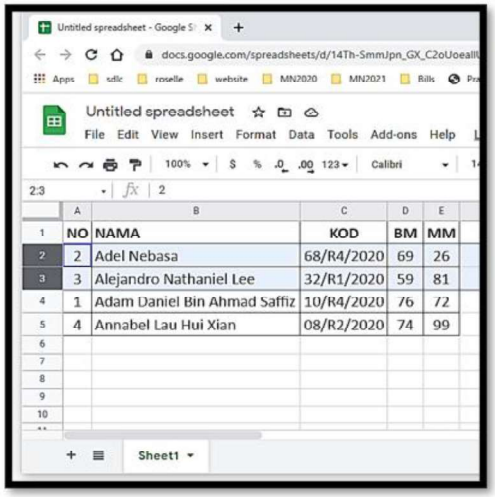


iv. Result: 1 column (BI) deleted.

D. Moving row and column

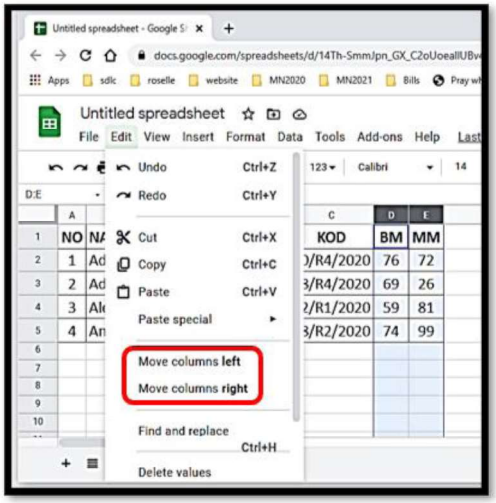


i. To **move rows**, position cursor on **rows 3-4**, select **Edit**, and choose the **Move rows up** or **Move rows down** option.

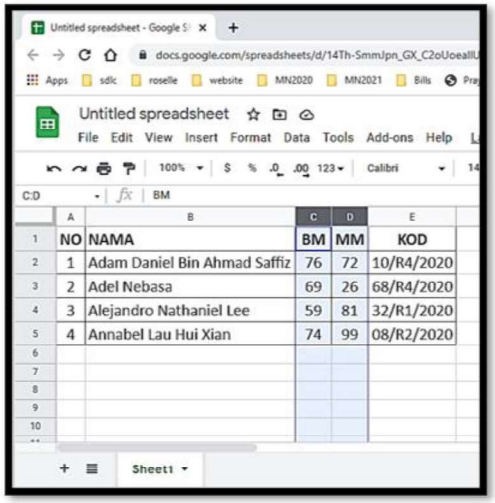


	NO	NAMA	KOD	BM	MM
2	2	Adel Nebasa	68/R4/2020	69	26
3	3	Alejandro Nathaniel Lee	32/R1/2020	59	81
4	1	Adam Daniel Bin Ahmad Saffiz	10/R4/2020	76	72
5	4	Annabel Lau Hui Xian	08/R2/2020	74	99

ii. Result: 2 rows moved up above student Adam.



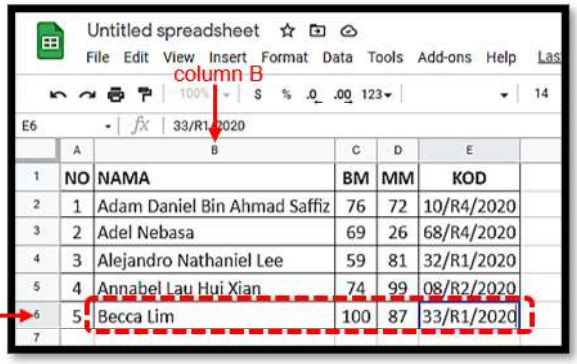
iii. To **move columns**, position cursor on **columns D-E**, select **Edit**, and choose the **Move column left** or **Move column right** option.



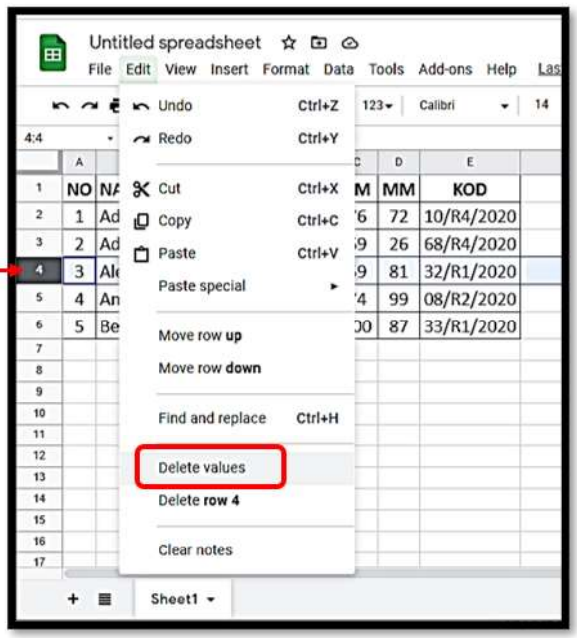
	NO	NAMA	BM	MM	KOD
2	1	Adam Daniel Bin Ahmad Saffiz	76	72	10/R4/2020
3	2	Adel Nebasa	69	26	68/R4/2020
4	3	Alejandro Nathaniel Lee	59	81	32/R1/2020
5	4	Annabel Lau Hui Xian	74	99	08/R2/2020

iv. Result: 2 columns moved left of column Kod.

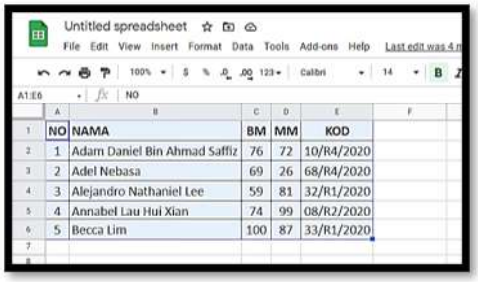
Task Manual 2.2 – Insert, delete, select and move data in spreadsheets



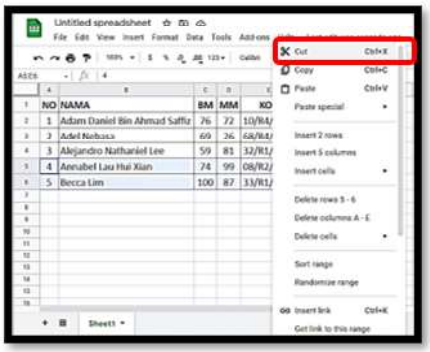
i. To **insert data**, click a cell (B6). Type in the following data/record (Nama **Becca Lim**, BM **100**, MM **87**, KOD **33/R1/2020**) then press **Enter** or **Tab**.



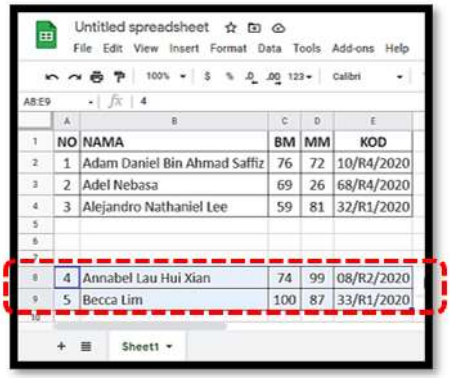
ii. To **delete data/record**, click a row (row 4), select **Edit**, and choose the **Delete values** option. Alternatively, press the **Delete button** from the keyboard.



iii. To **select data**, drag mouse over the data you want to select. Cells will be selected as shown above.

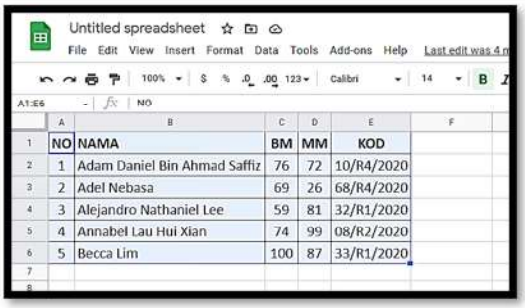


iv. To **move data**, right-click and select the **Cut** option.

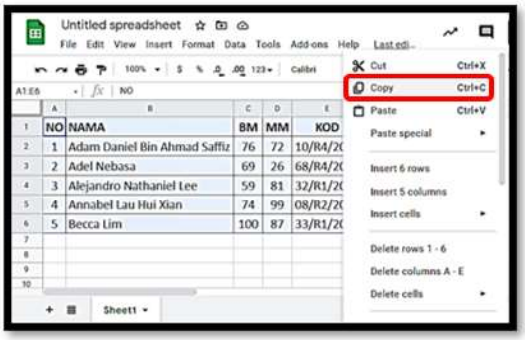


v. Select the cell where you want to move the data (A8). Right-click on it and select **Paste**. The data is moved now.

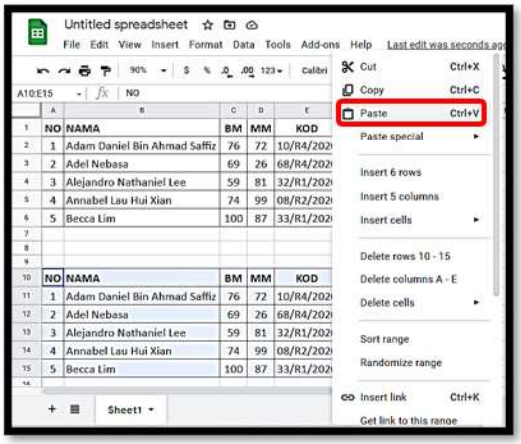
Task Manual 2.3 - Copy, paste and search record in spreadsheets



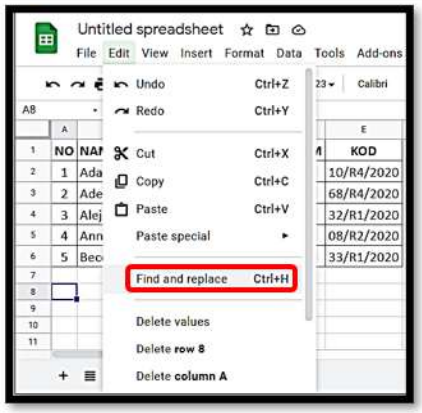
i. To **copy records**, drag mouse over the records you want to select. Cells will be selected as shown above.



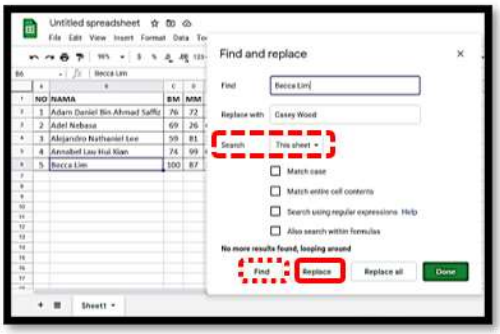
ii. Right-click and select the **Copy** option (or press **Control + C**).



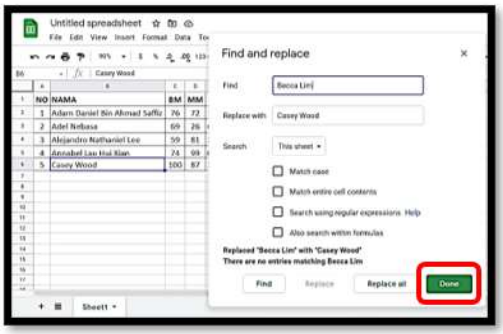
iii. Select the cell where you want to move the data (A10). Right-click on it and select **Paste** (or press **Control + V**). The records are copied now.



iv. To **search data**, go to **Edit** and select **Find and replace** option (or press **Control + H**).

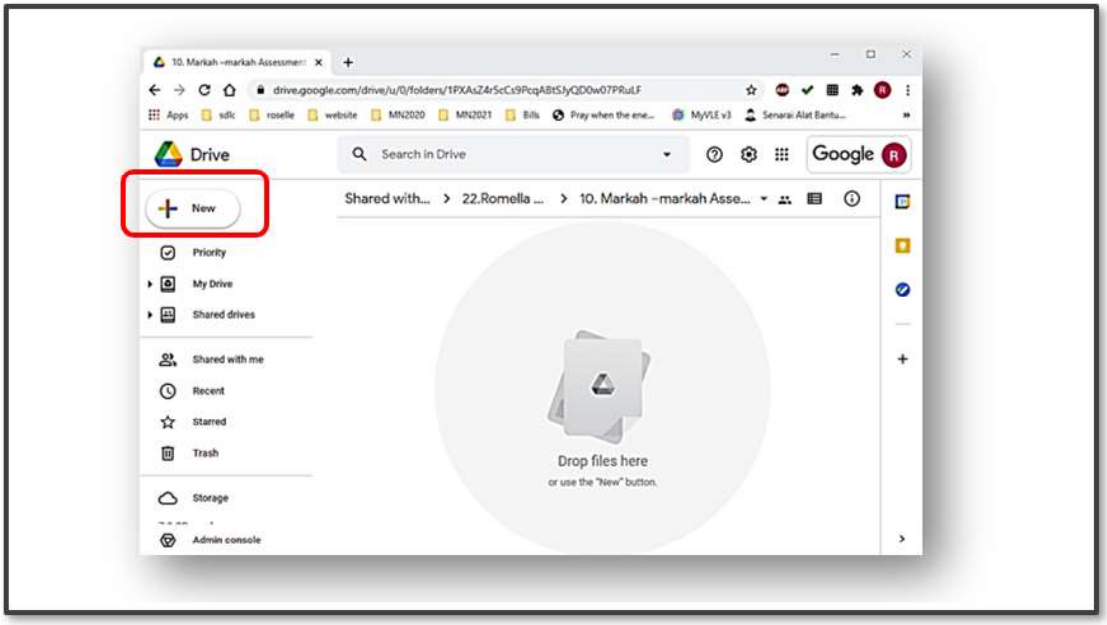


v. Ensure the **Search** option is set to **This sheet** (to make changes to current sheet only) and click **Find**. The system automatic detects cell **B6** for student 'Becca Lim'. To replace with new student 'Casey Wood', click the **Replace** and **Done** button. Result of new record is shown below.

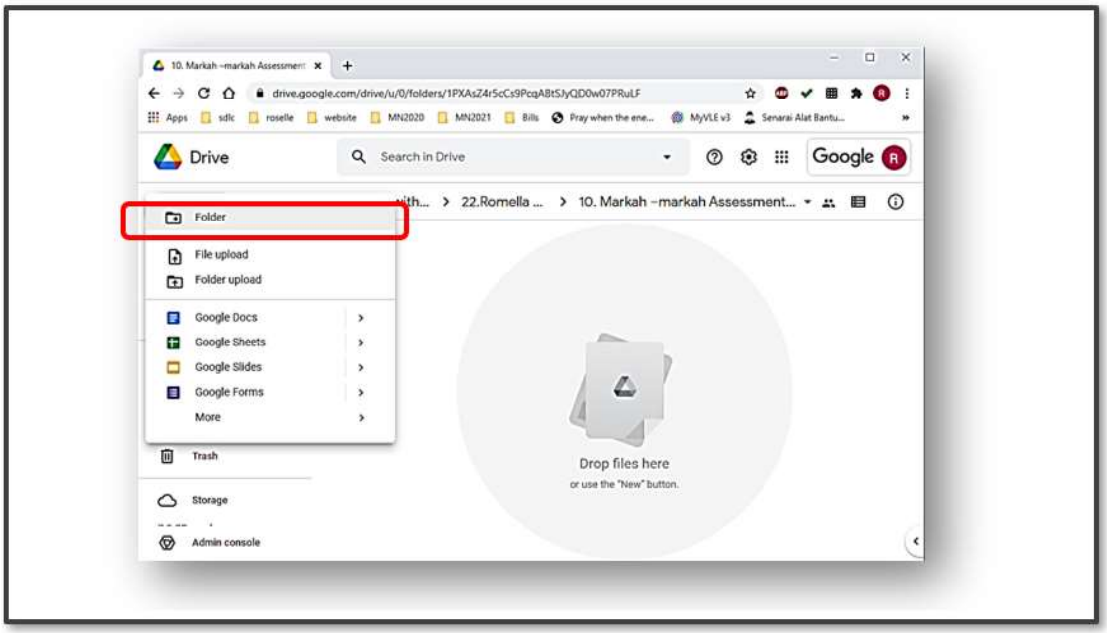


Task Manual 2.4 - Create folder

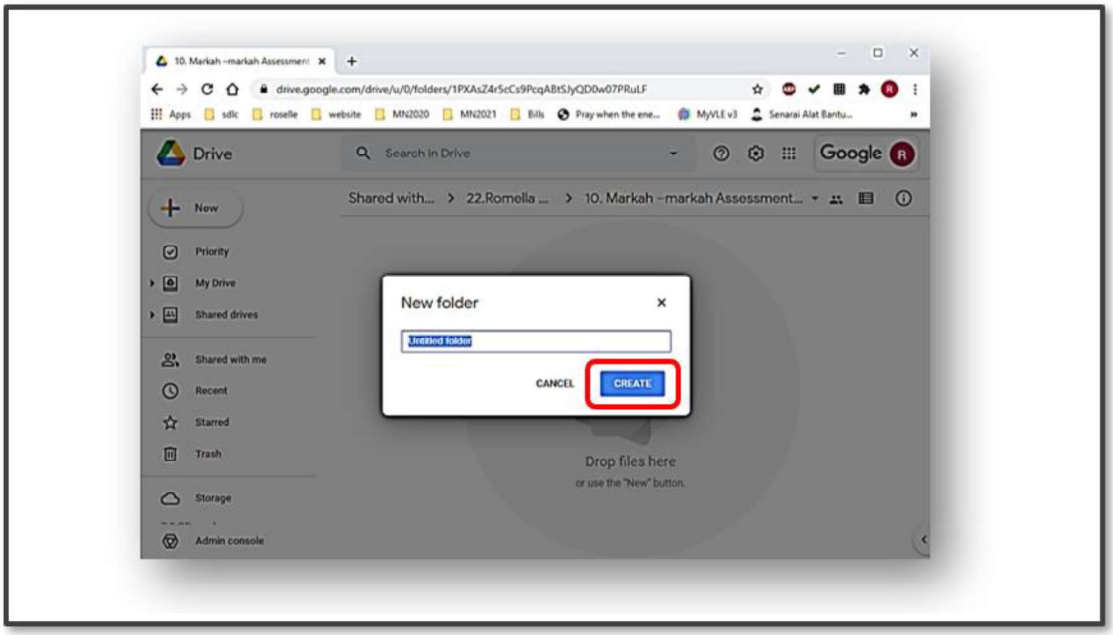
Step 1: To create a folder, in your Google Drive select **New** as shown below.



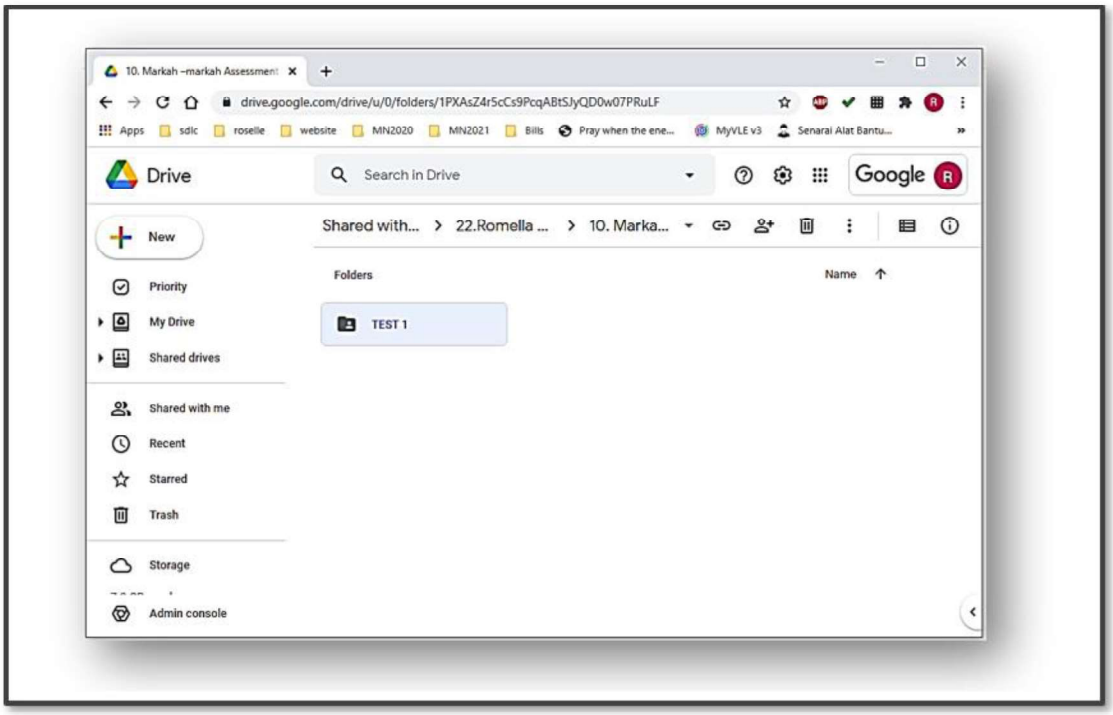
Step 2: Select **Folder**.



Step 3: Type a name for the folder, and click **CREATE.**

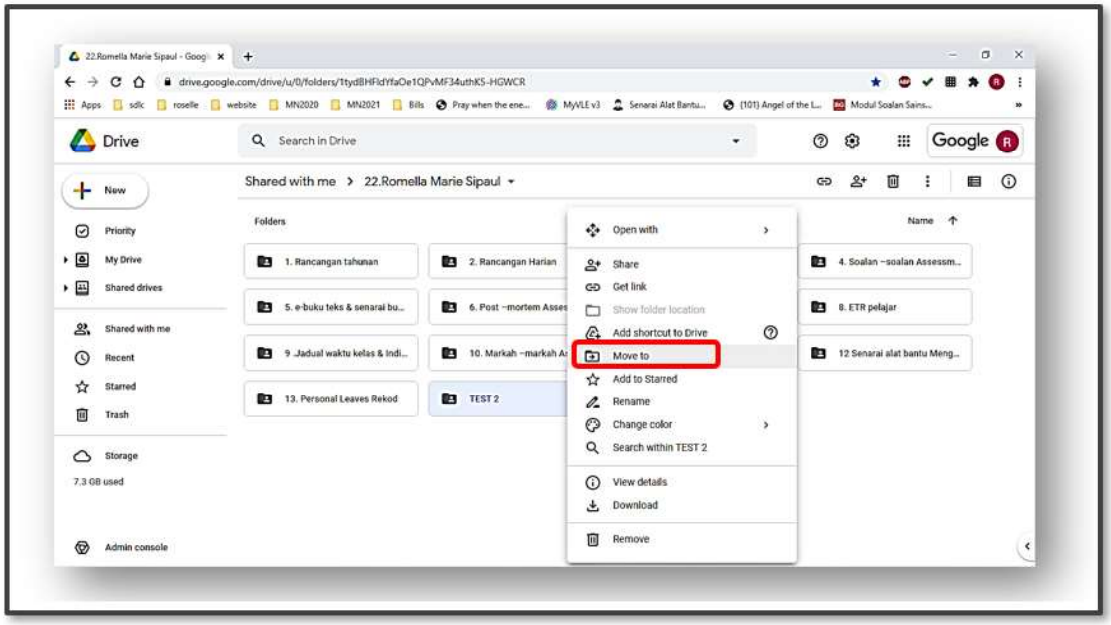


Step 4: A new folder **TEST 1** is created successfully as shown below.

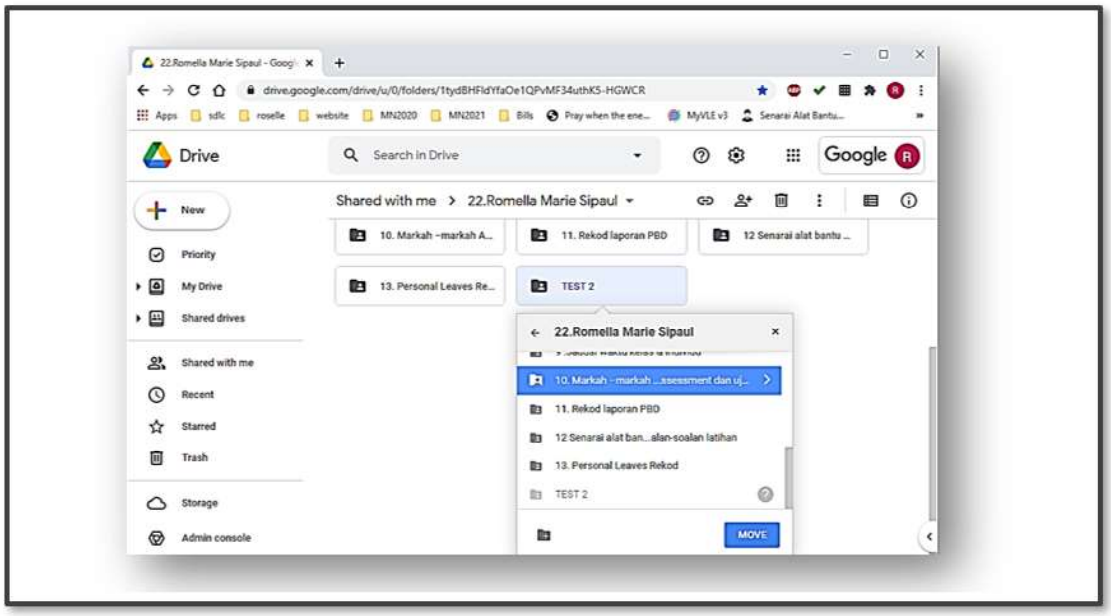


Task Manual 2.5 - Move file / folder

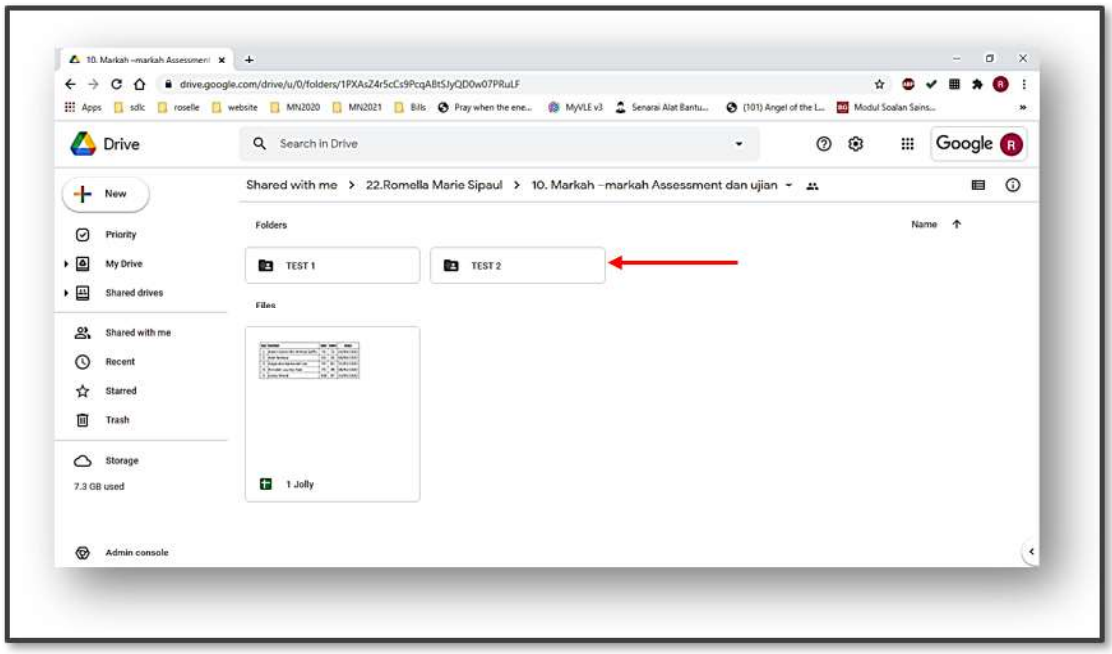
Step 1: To move a file / folder, in your Google Drive select the item (file/folder) to move and select the **Move to** option. In this manual, we will move a folder (TEST 2) as an example.



Step 2: Choose the location you want to move your item (file/folder) and click the **MOVE** option when done.



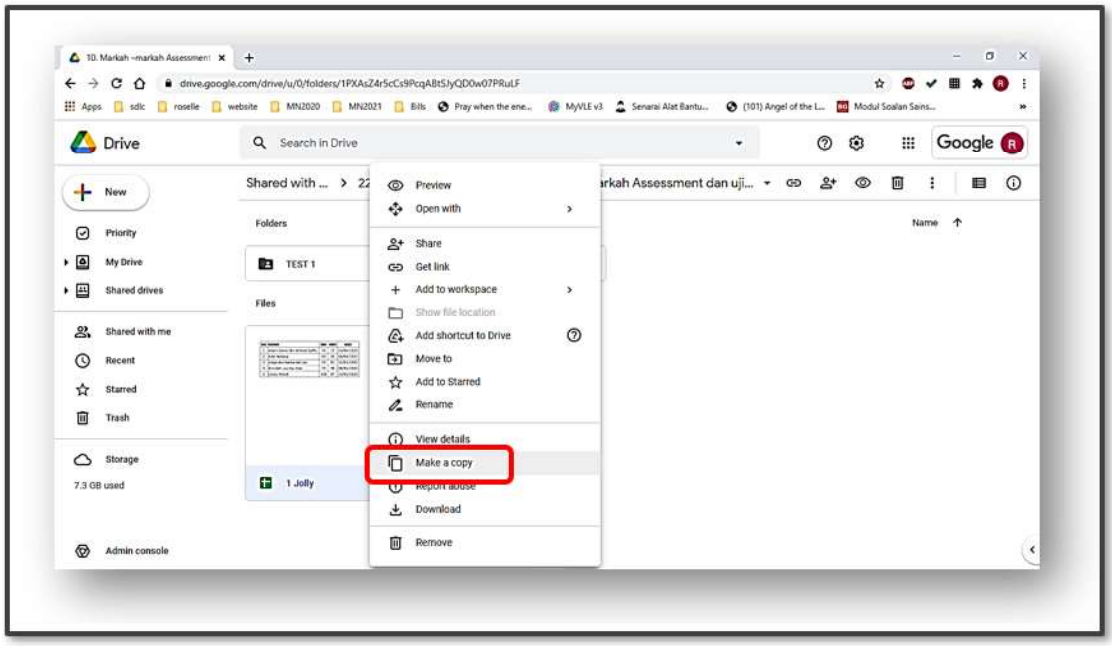
Step 3: TEST 2 folder successfully moved to a new location.



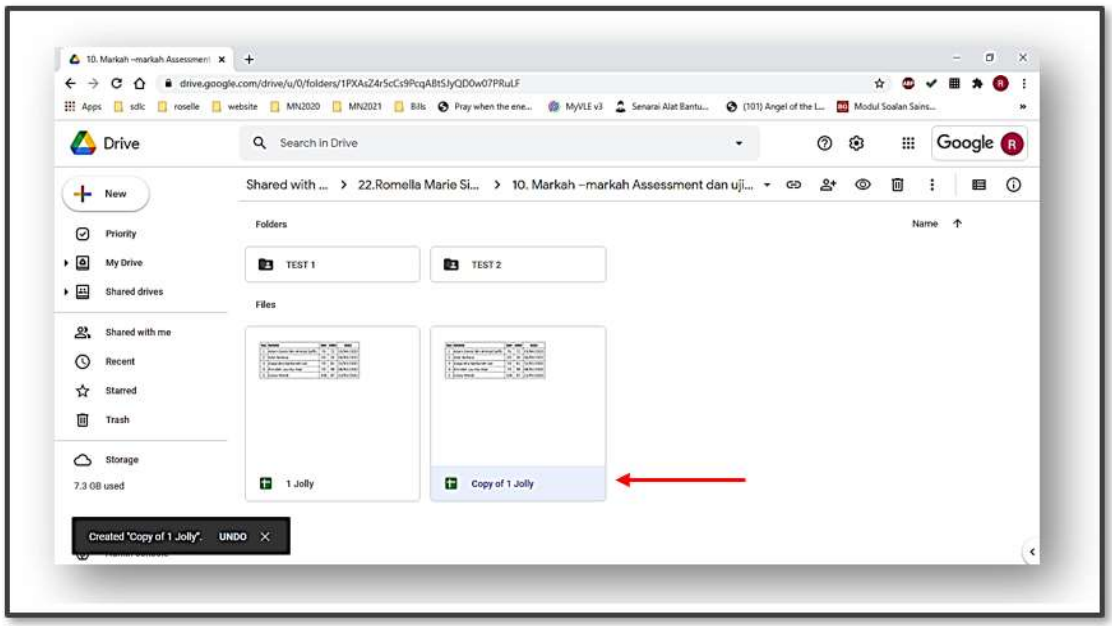
Task Manual 2.6 - Make a copy

..

Step 1: Folders cannot be copied, only files can be copied. Right-click a file (1 Jolly) as shown below and select the **Make a copy** option.

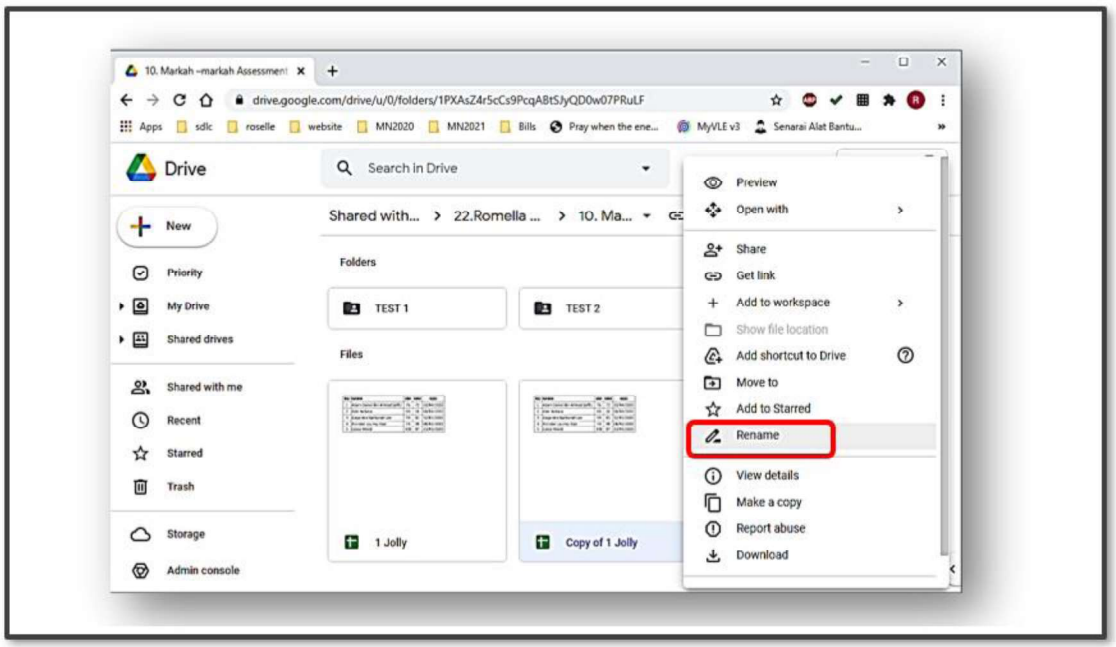


Step 2: **Copy of 1 Jolly** file copied successfully.

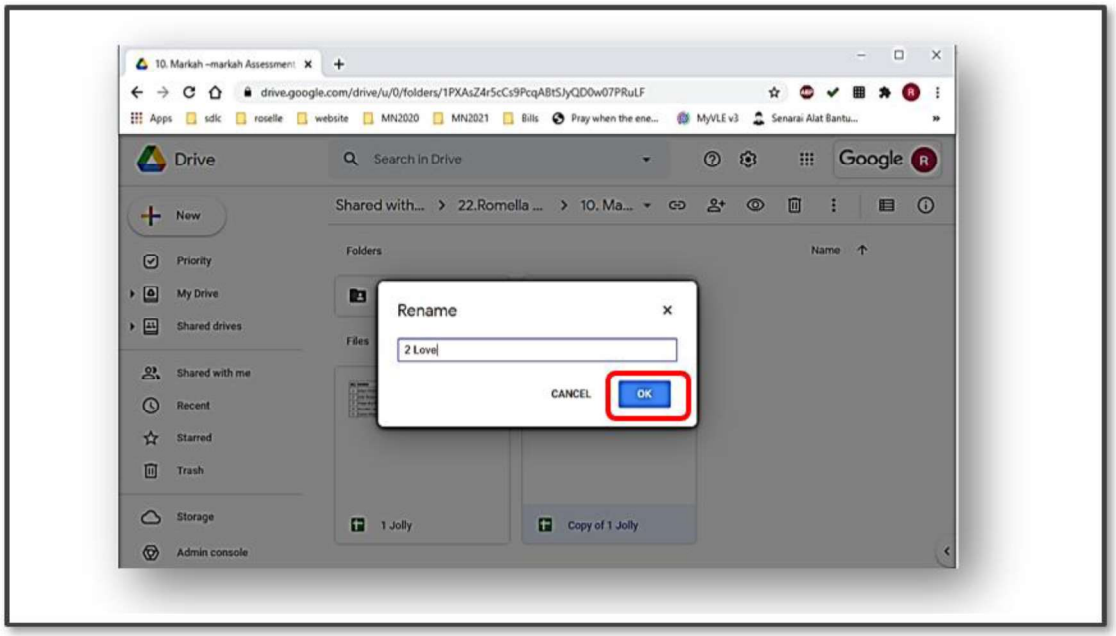


Task Manual 2.7 - Rename and delete file / folder

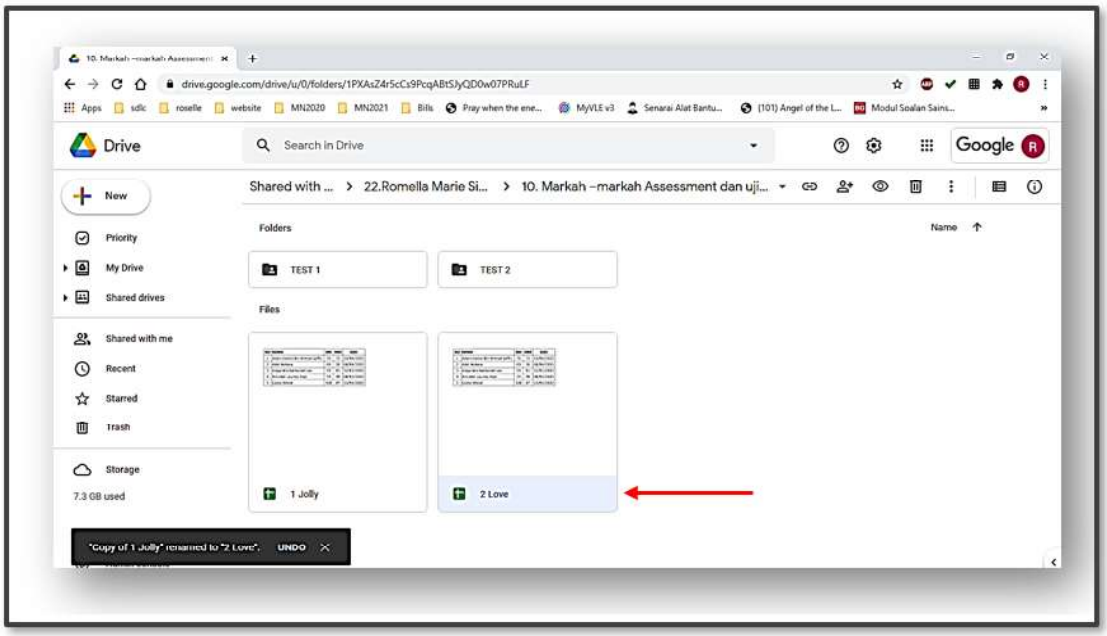
Step 1: To rename file / folder, right-click a file (1 Jolly) as shown below and select the **Rename** option.



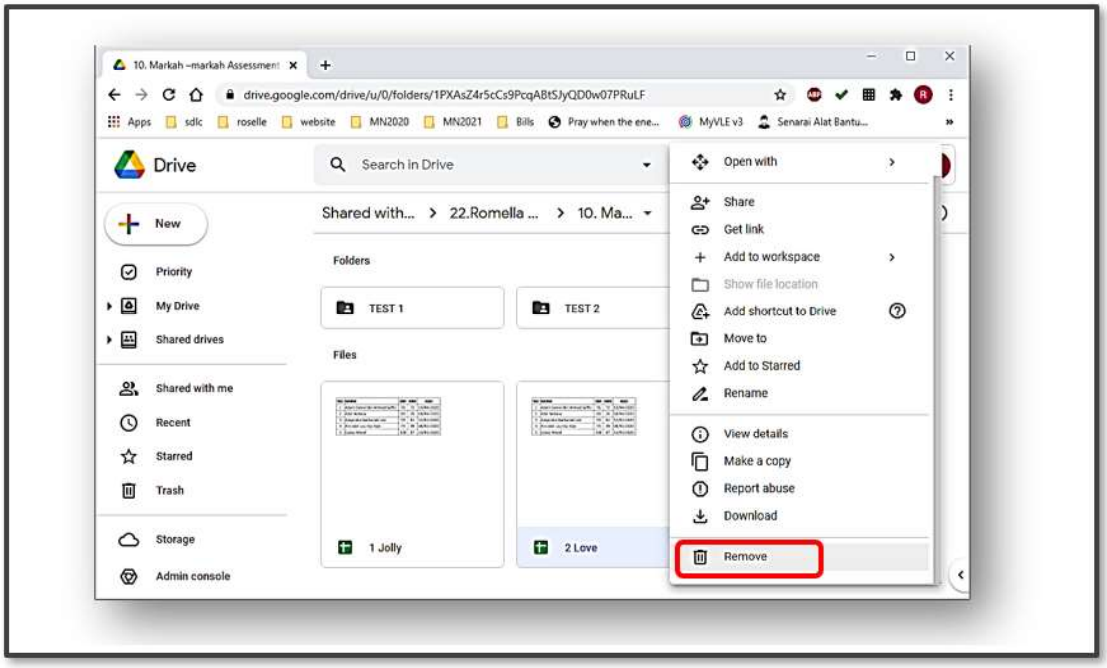
Step 2: Rename for the file, and click **OK.**



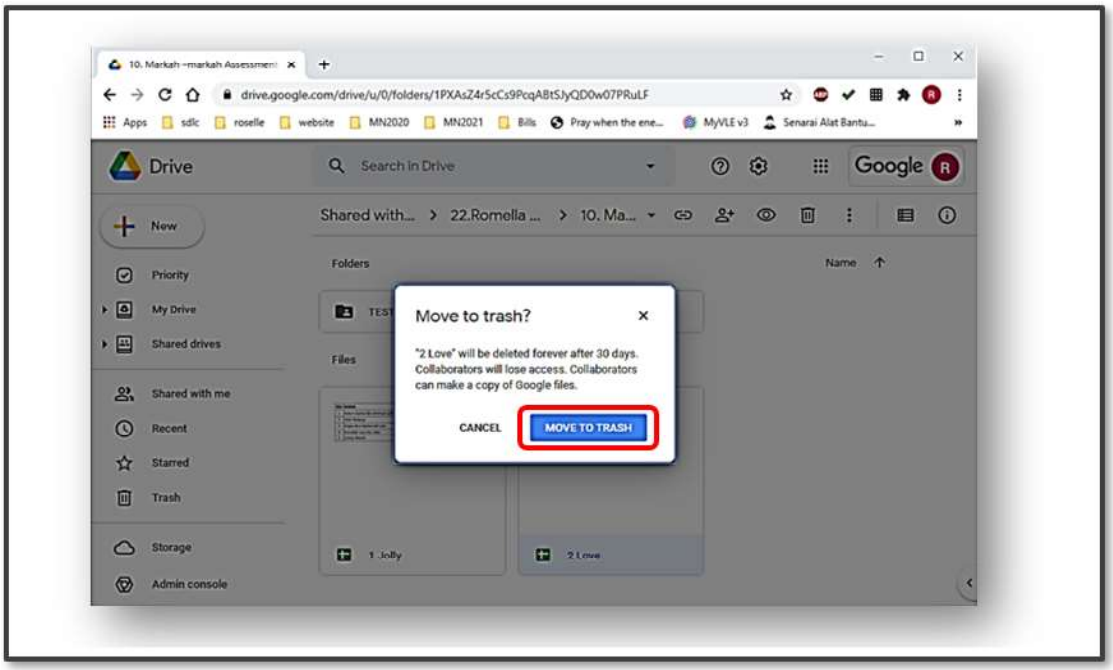
Step 3: **2 Love** file renamed successfully.



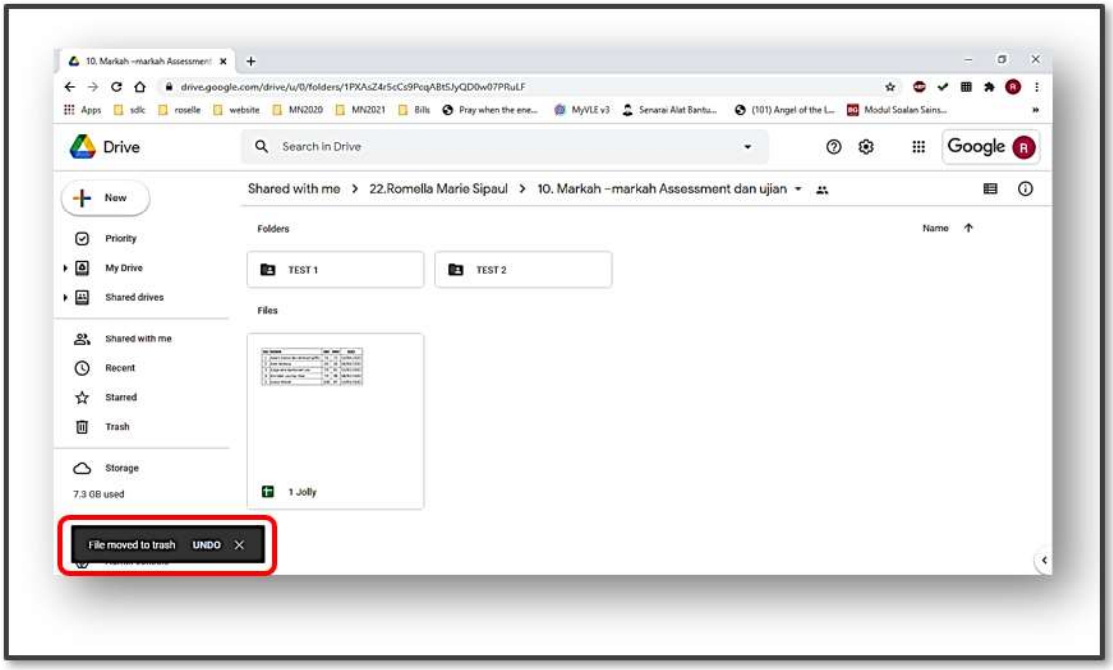
Step 4: To delete file / folder, right-click a file (2 Love) as shown below and select the **Remove** option.



Step 5: To confirm deletion, select the **MOVE TO TRASH** option.

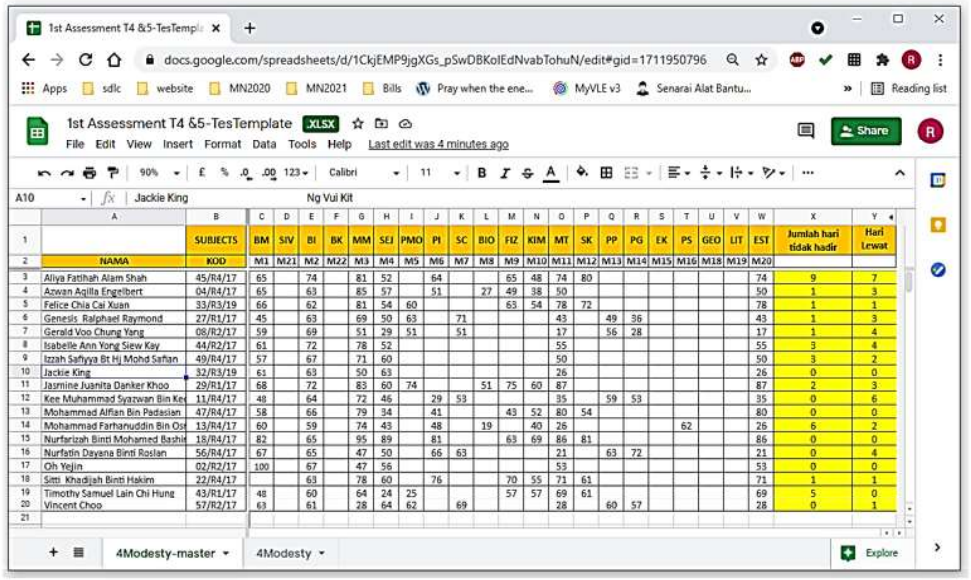


Step 6: 2 Love file deleted successfully.



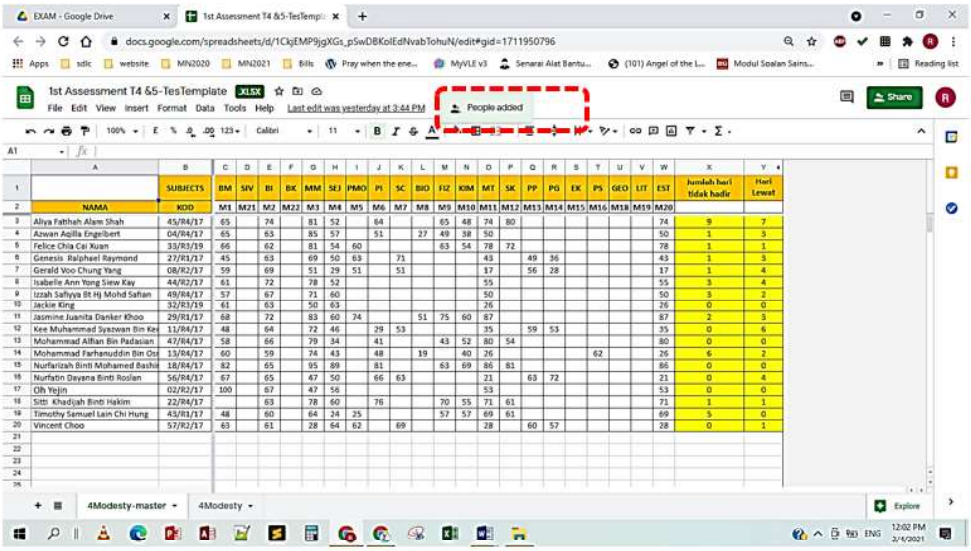
TASK-BASED ASSESSMENT #3: COLLABORATE IN GOOGLE DRIVE

Given below is the spreadsheet of Form 4 Modesty first assessment in Google Drive. Based on this, carry out the following instructions.



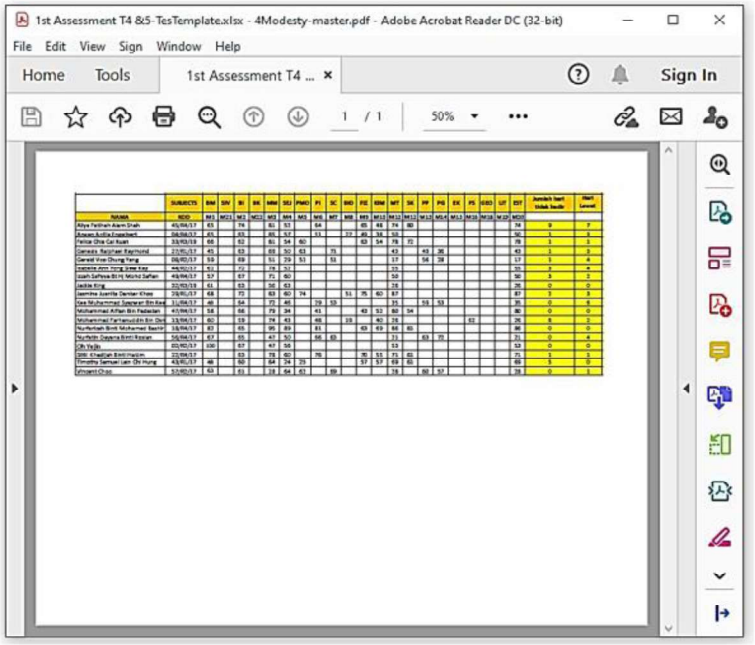
Instruction 1:

Share spreadsheet above to a group of teachers (minimum 2) in the Maktab Nasional domain with **Editor** permission access and **Viewers and commenters can see the option to download, print and copy** option. Once completed, your spreadsheet will display **People added** (shown below) indicating that you have successfully shared this spreadsheet:

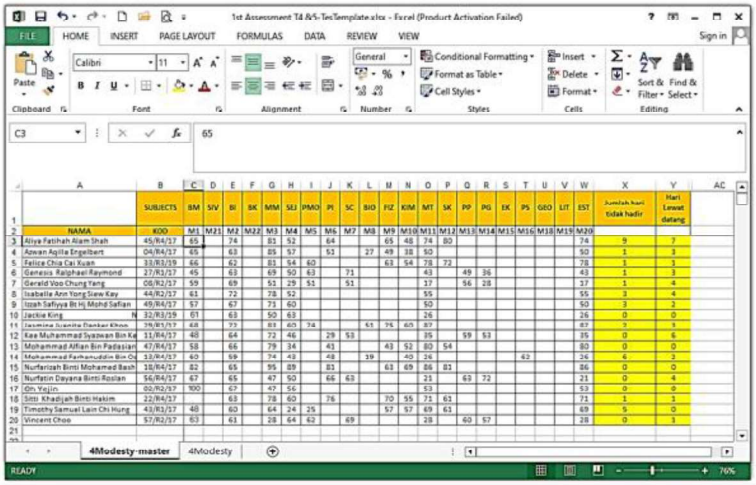


Instruction 2:

Download spreadsheet above in PDF document (.pdf) scaling and ensuring it fit into 1 page and download in Microsoft Excel (.xlsx) to your desktop / laptop. Once completed, your final display should be similar as shown below:



PDF document



Excel document

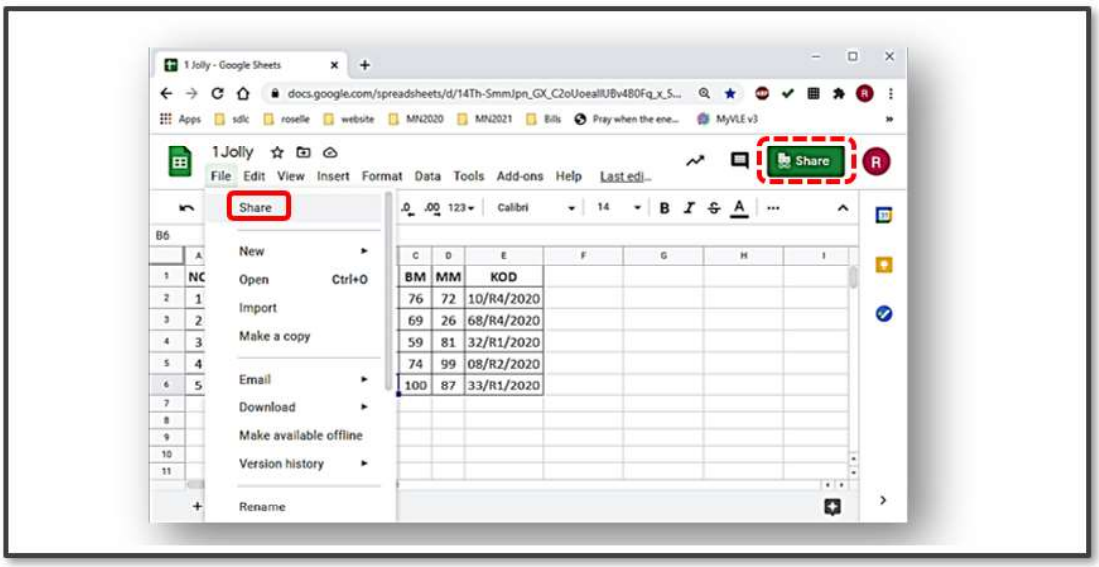
Instruction 3:

Lastly, print both documents from Instruction 3 in Landscape orientation with no gridlines. Once completed, show documents to the researcher.

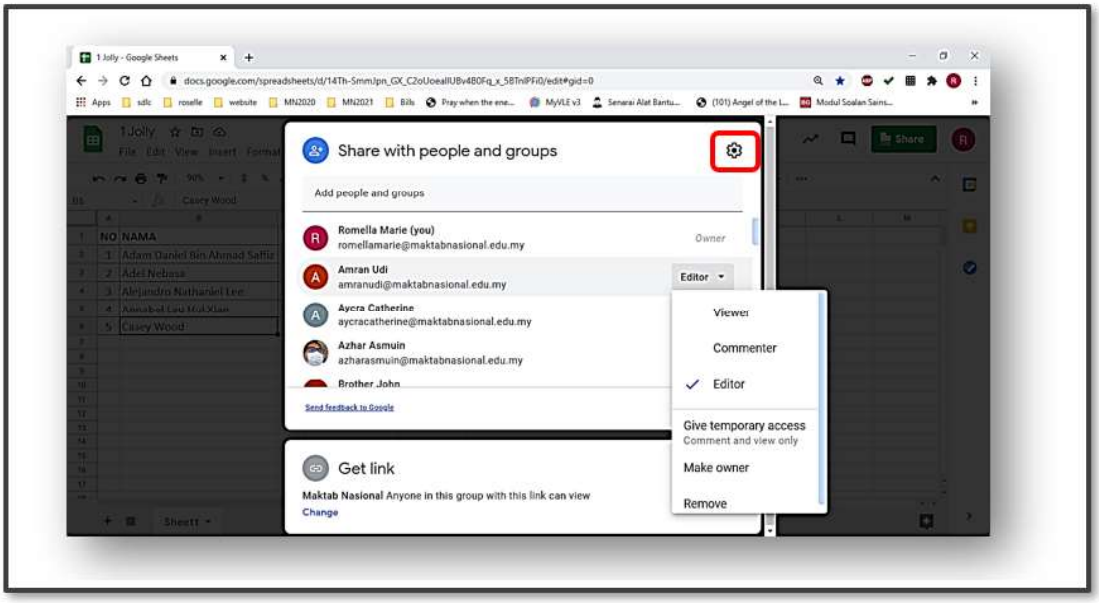
Task Manual 3.1 – Share a spreadsheet

4.1a) Share with specific people / groups

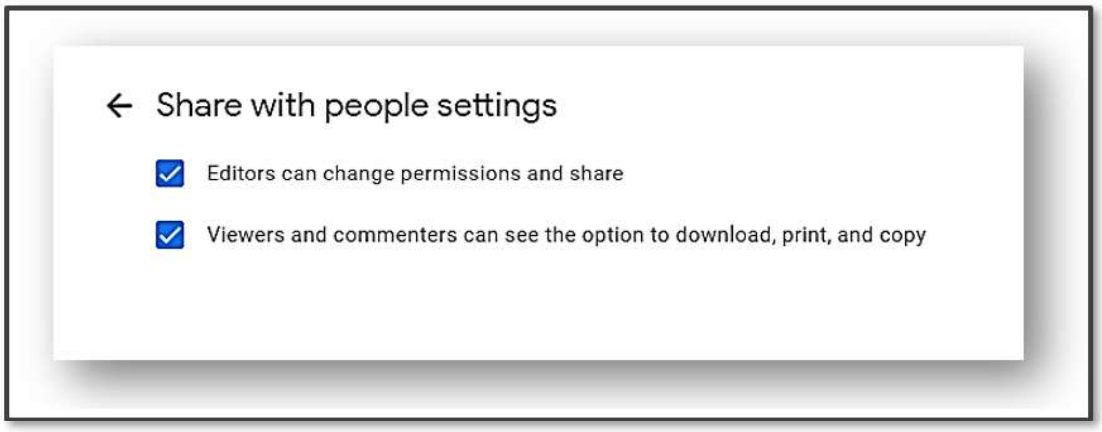
Step 1: Go to **File,** and select **Share.** Alternatively, click the green **Share** button.



Step 2: Enter the email address (for people or groups) that you want to share the sheet with, and choose type of permission access; as **Viewer, Commenter, Editor, Give temporary access** or **Make owner.** Click ⚙ to modify access type in the **Share with people and groups settings** as shown in Step 3.



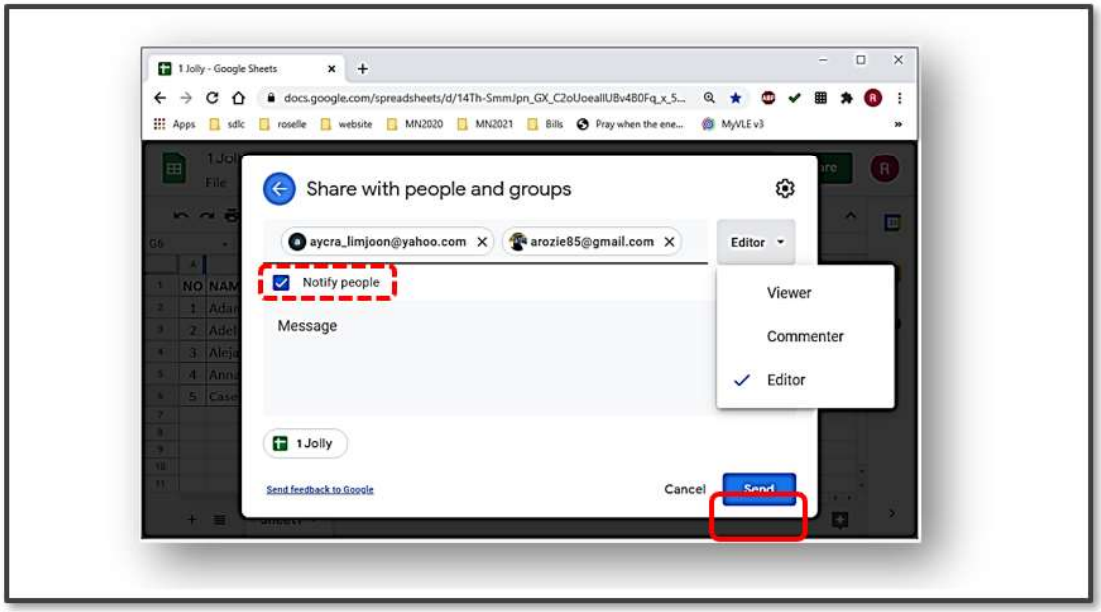
Step 3: Check the checkboxes accordingly in the **Share with people setting** below.



Permission access remarks:

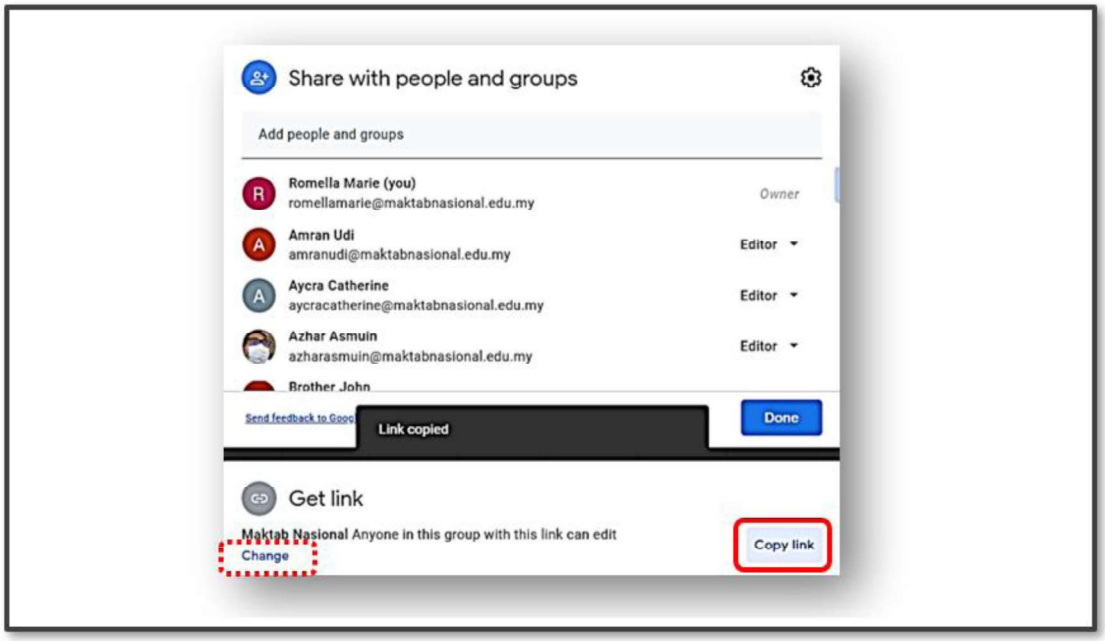
- **Viewer** – people can view, but can't change or share the file with others
- **Commenter** – people can make comments and suggestions but cannot change or share the file with others
- **Editor** – people can make changes, accept or reject suggestions and share the file with others

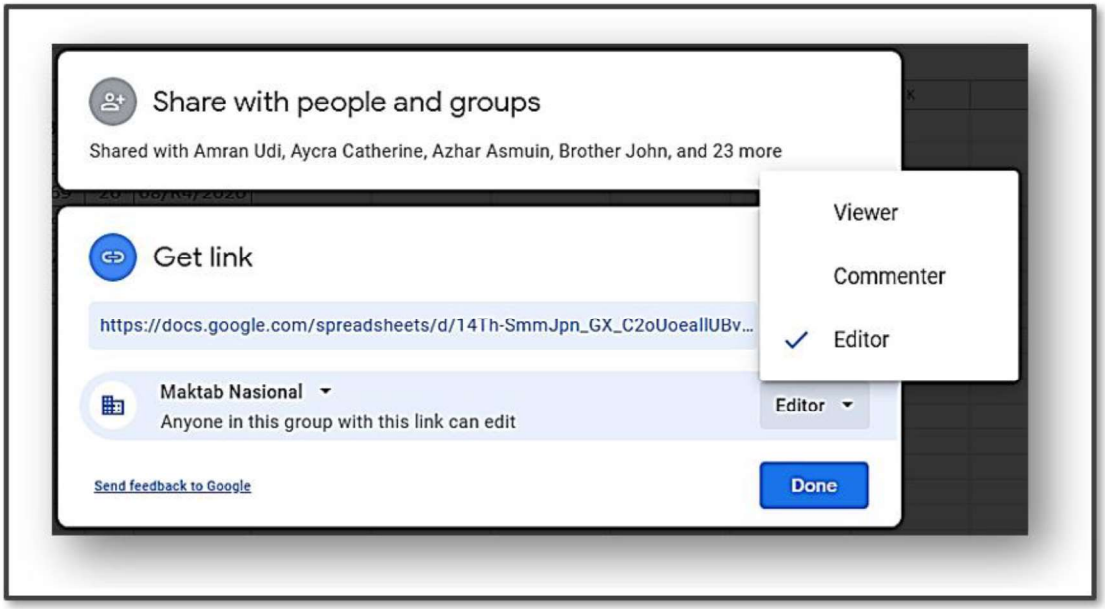
Step 4: Choose to notify people. If you want to notify people that you shared a file with them, check the **Notify people** box and each email address you enter will be included in the email. Else, uncheck the box. Click **Send** after making your selection.



4.1b) Share with using a link

Step 1: Under the **Get link** section, click **Copy link**. You can also change permission access by clicking the **Change** setting below to change to Viewer, Commenter or Editor.





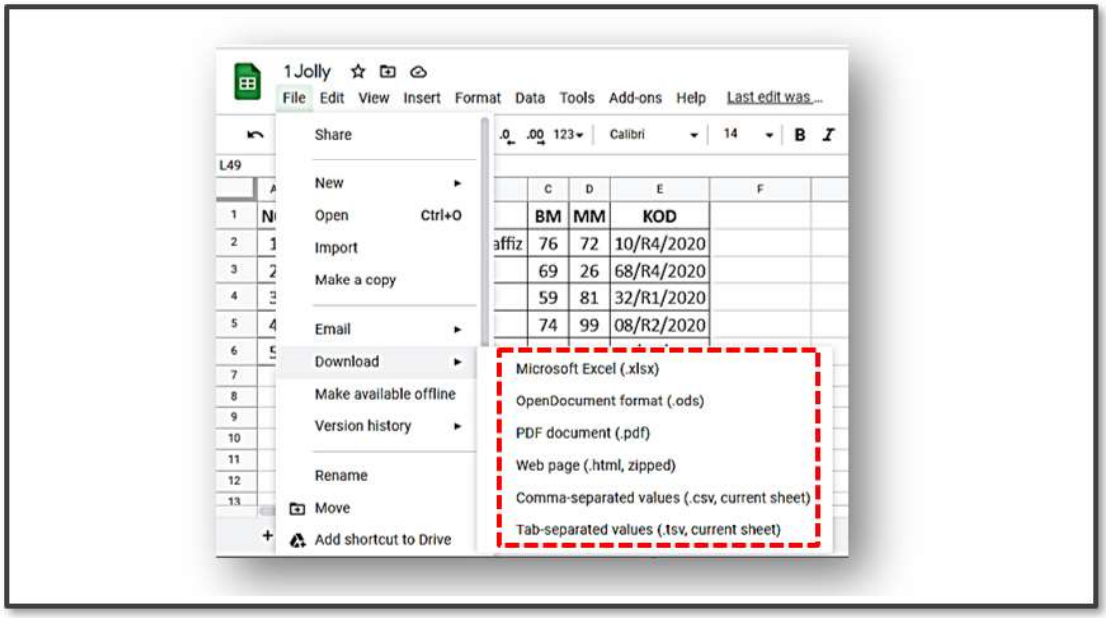
Step 2: The file can be controlled on how widely it is being shared depending on if your Google account is under a Gmail, work or school domain account with the option of **Restricted, Public** or **Anyone with the link**. After that making your selection, copy and paste the link in an email or any place you want to share it. Then click **Done** to complete the process.

Remarks:

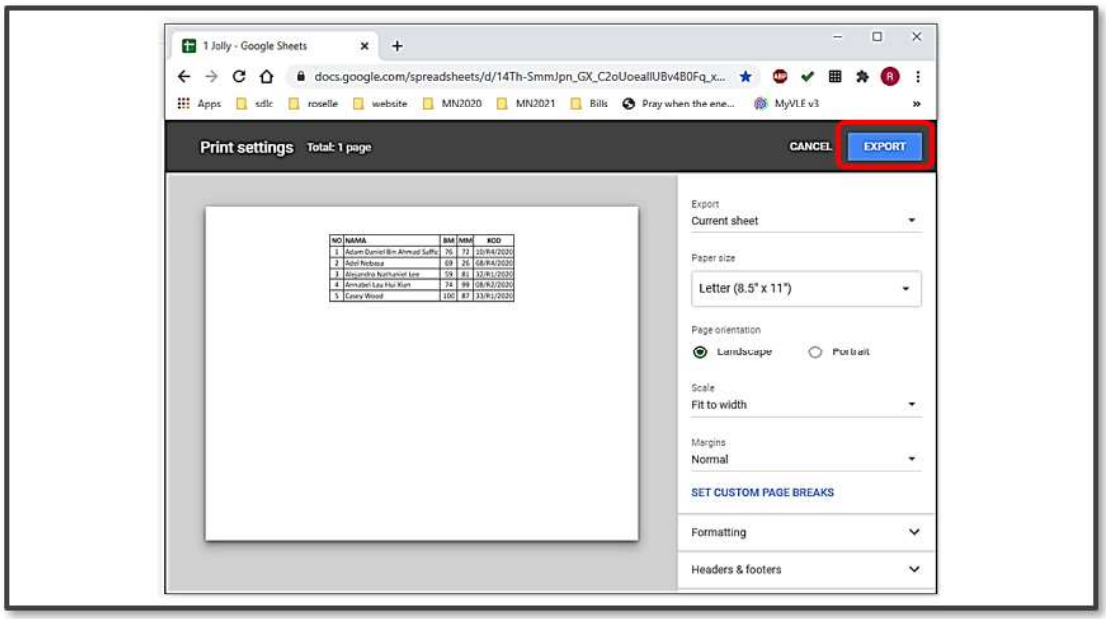
- **Restricted** – only people you share the file with will be able to use it
- **Public** – anyone can **search** on Google and **get access** to the file, without signing into their Google account
- **Anyone with the link** – anyone with the link can **use** the file, without signing into their Google account

Task Manual 3.2 – Download spreadsheet

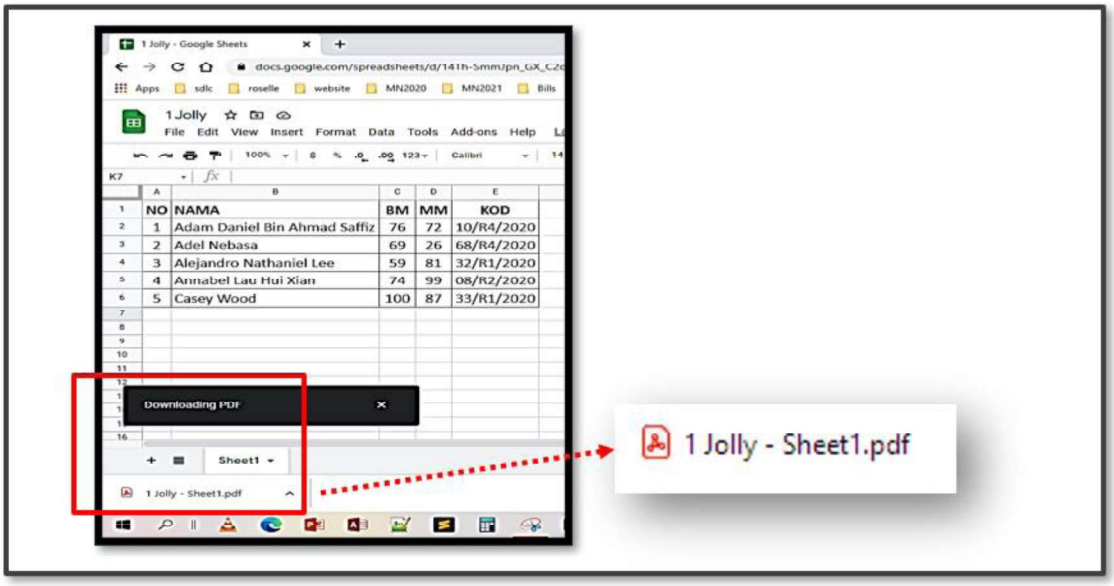
Step 1: Select **File → Download**. The download option in Google sheet enables you to download spreadsheet and open it in other programs, as shown below.



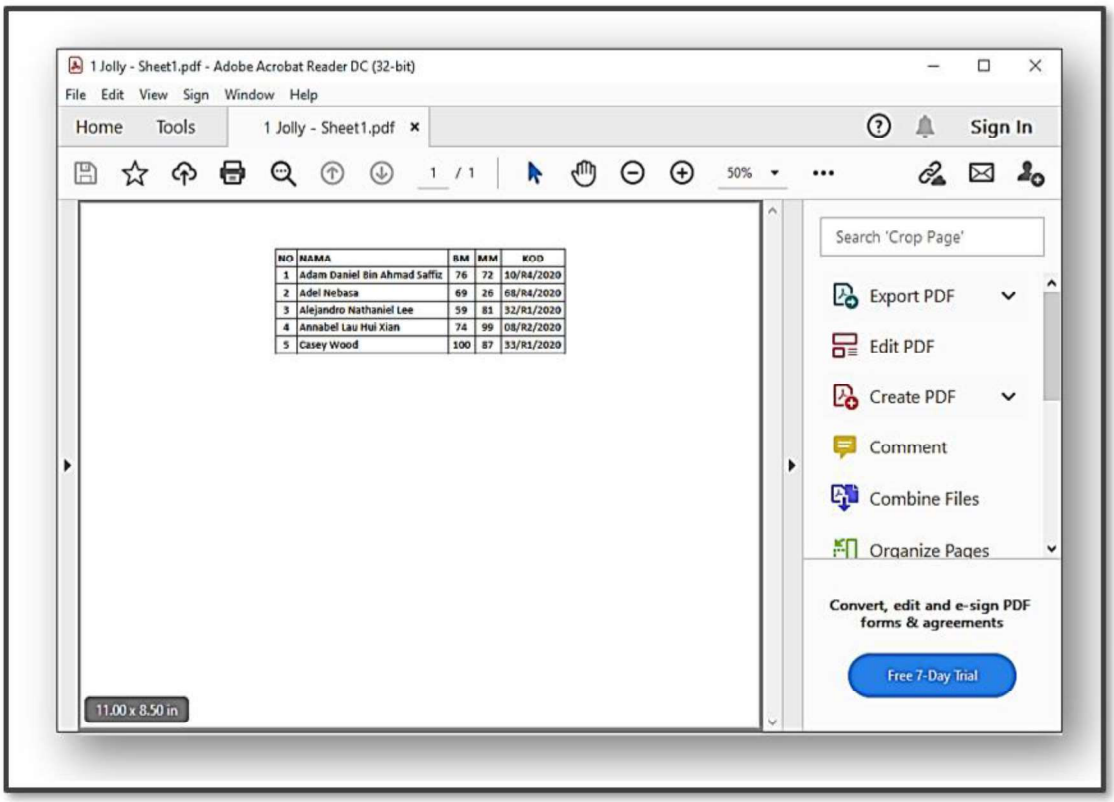
Step 2: For example, if you want to view the file in a PDF format, select the PDF document (.pdf) option. It will bring you to the **Print settings** screen below. Click **EXPORT**.



Step 3: The file is automatically downloading in PDF to your computer.

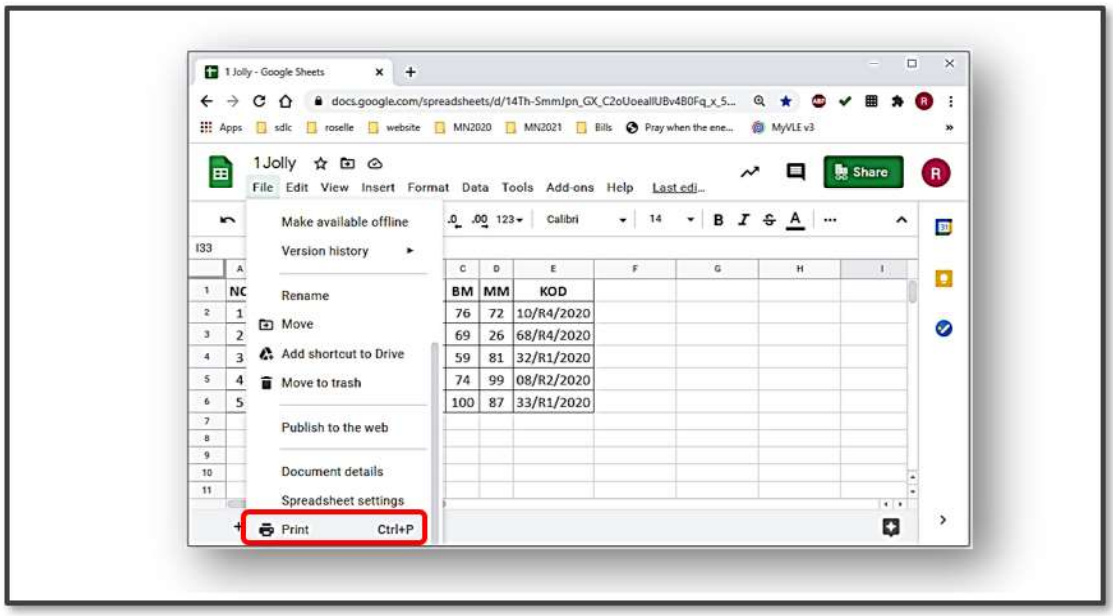


Step 4: 1 Jolly spreadsheet can now be open/view as a PDF format as shown below.

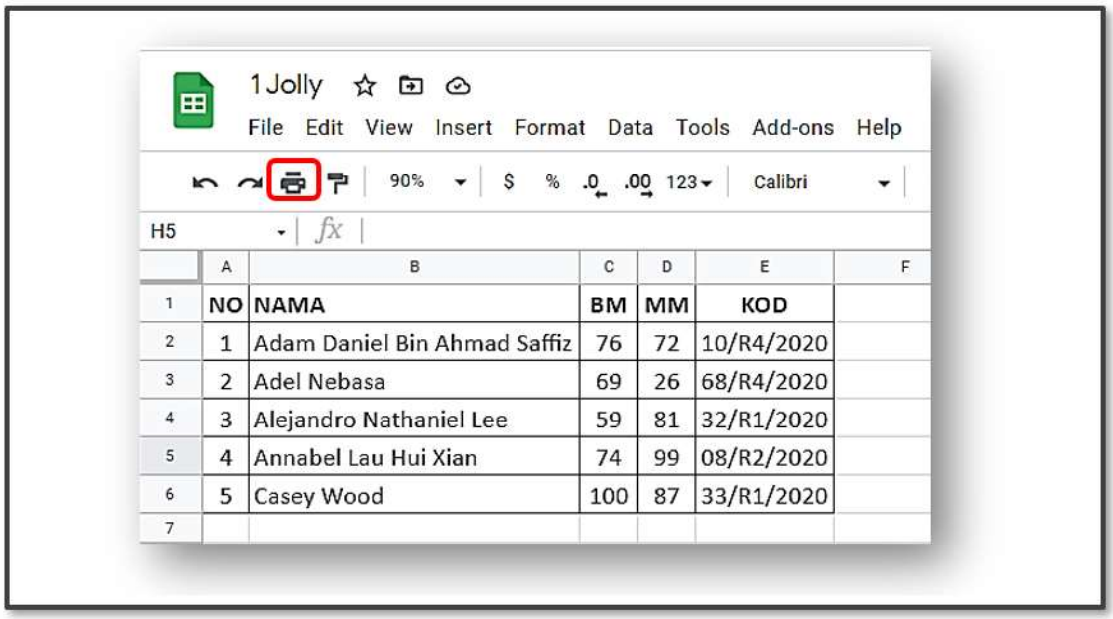


Task Manual 3.3 – Printing spreadsheet

Step 1a: Go to **File,** scroll down and select the **Print** option (or press **Control** + **P**).



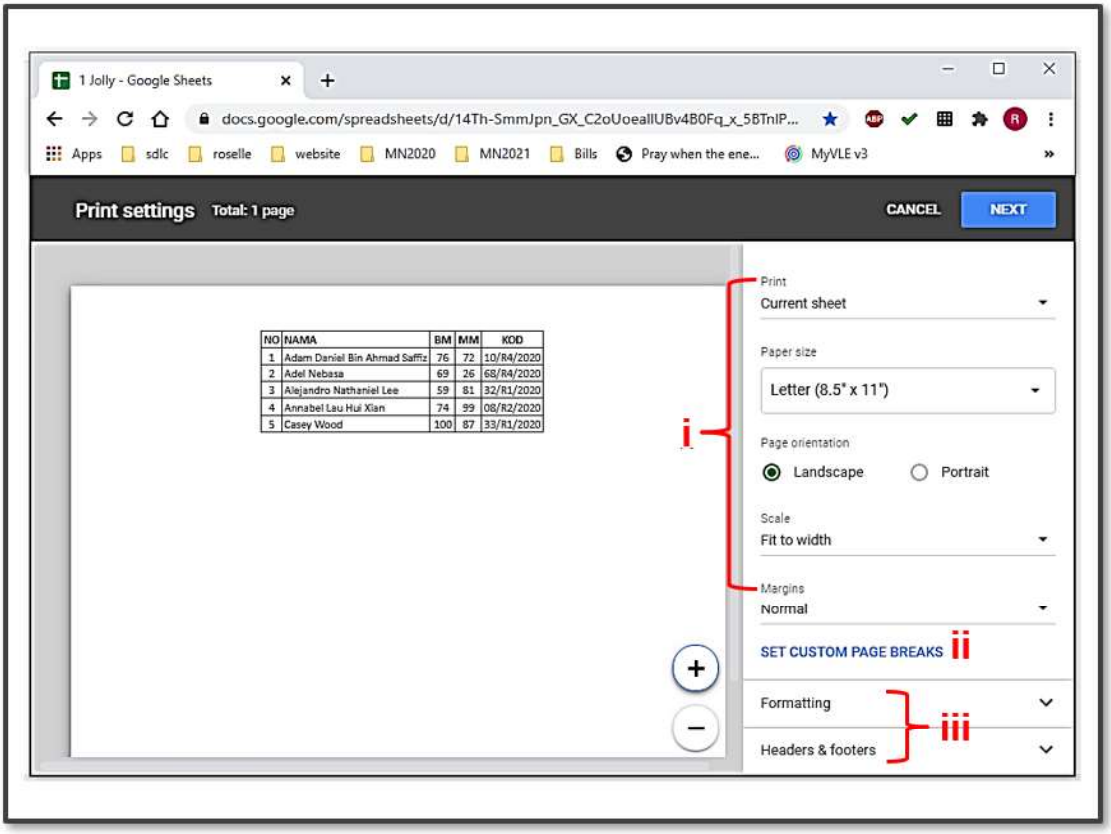
Step 1b: Alternatively, you can also click the print icon shown below.



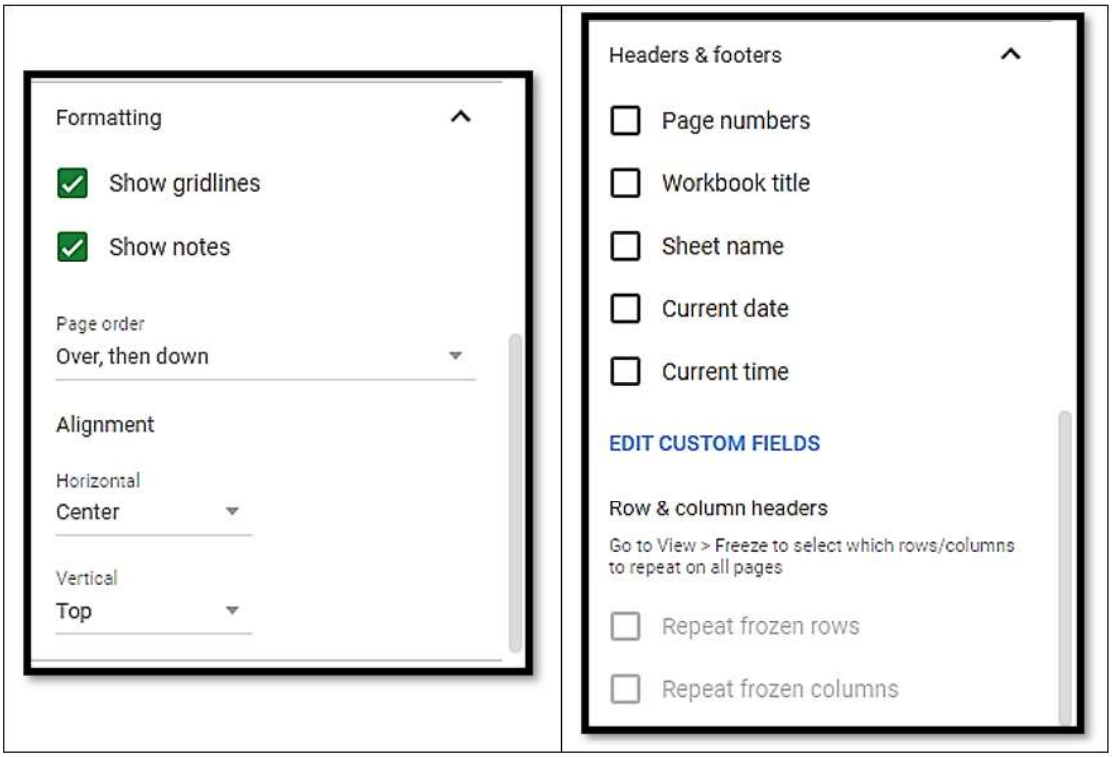
	A	B	C	D	E	F
1	NO	NAMA	BM	MM	KOD	
2	1	Adam Daniel Bin Ahmad Saffiz	76	72	10/R4/2020	
3	2	Adel Nebasa	69	26	68/R4/2020	
4	3	Alejandro Nathaniel Lee	59	81	32/R1/2020	
5	4	Annabel Lau Hui Xian	74	99	08/R2/2020	
6	5	Casey Wood	100	87	33/R1/2020	
7						

Step 2a: In the print settings below, you can set:

i. which sheet to print, paper size, paper orientation, scale &margin
ii. to enable **SET CUSTOM PAGE BREAKS**



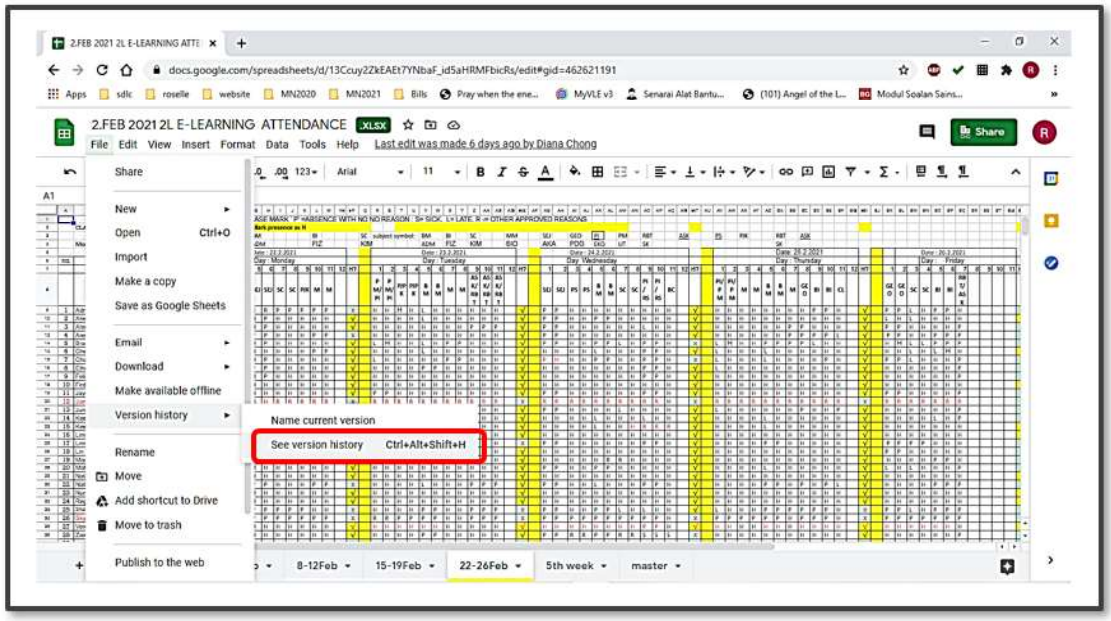
Step 2b: In (iii) above, more settings can be set in **Formatting** and **Headers & footers** as shown below.



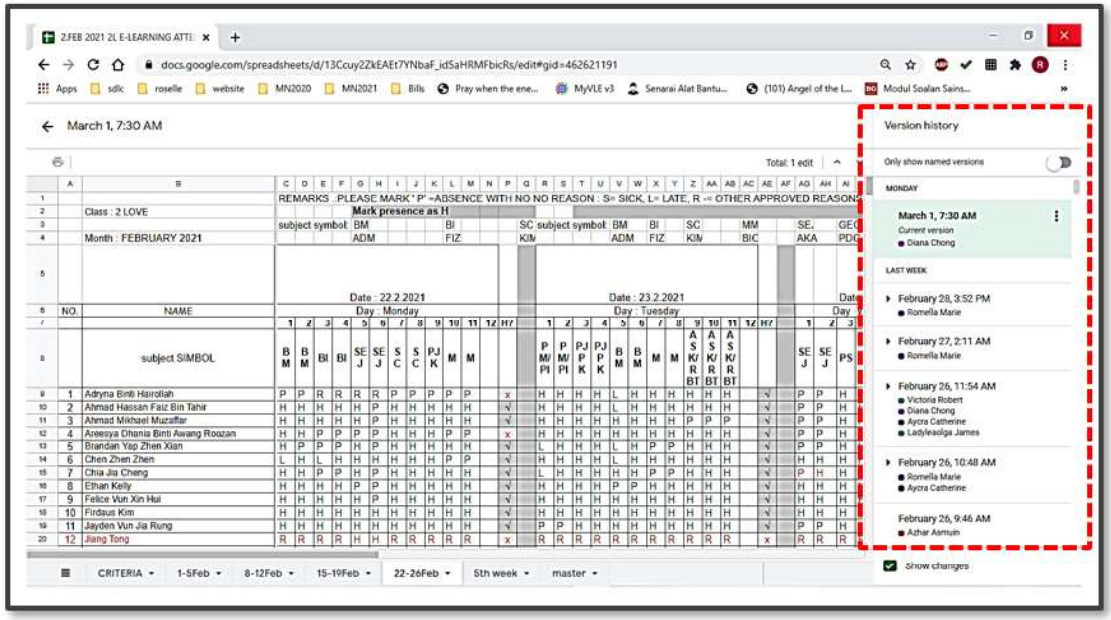
Task Manual 3.4 – Version History

Version history enables you to view past spreadsheet versions and restore it if you have edit access to the spreadsheet.

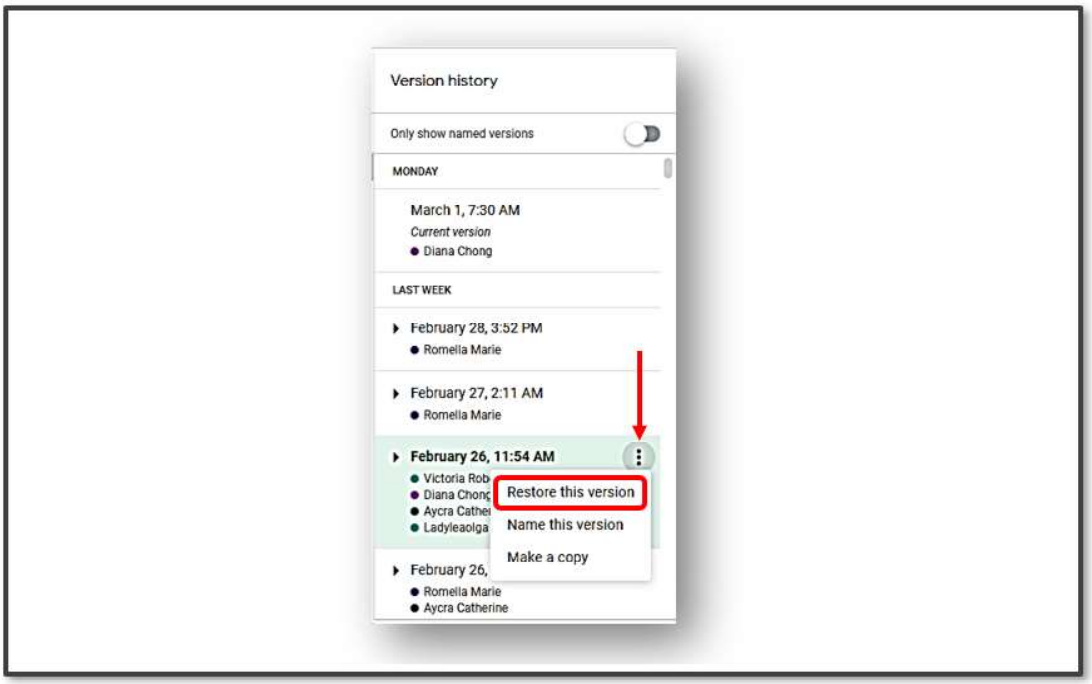
Step 1: Select **File → Version history → See version history**.



Step 2: The timestamp below shows the names of anyone who has edited the document with a color next to their name (indicating the edits they made)



Step 3: To make / use the current version active, click on the three dots as shown below and select the **Restore this version** option.



Appendix B

Respondent Survey

SECTION B (RESPONDENT SURVEY)

PART A: DEMOGRAPHIC

1. What is your gender?

2. What is your age?

3. What is your marital status?

4. What is the highest education qualification you have attained to date?

5. How long have you worked as a teacher in Maktab Nasional?

6. How many subjects do you teach in Maktab Nasional?

7. How long have you been using the computer?

year(s)

8. How long have you been using the internet?

year(s)

9. What is your level of computer literacy? Tick (√) the most relevant.

[ ] No experience [ ] Novice [ ] Intermediate [ ] Expert

10. How do you access the internet at home? Tick (√) the most relevant.

	TM	Digi	Maxis	Celcom	Ohers (please state):
Unifi	[ ]				
Fiber		[ ]	[ ]	[ ]	[ ]
Broadband		[ ]	[ ]	[ ]	[ ]

PART B: EASE OF USE

Please rate your perception of the Google Drive ease of use by marking (√) to only **ONE** of the five alternatives below (1 being **strongly agree** and 5 being **strongly disagree**).

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	2	3	4	5

USEFULNESS	**1**	**2**	**3**	**4**	**5**
1. It helps me be more effective.					
2. It helps me be more productive.					
3. It is useful.					
4. It makes the things I want to accomplish easier to get done.					
5. It saves my time when I use it.					
6. It meets my needs.					

EASE OF USE	**1**	**2**	**3**	**4**	**5**
7. It is easy to use.					
8. It is simple to use.					
9. It is user friendly.					
10. It is flexible.					
11. It makes using it effortless.					
12. It requires fewer steps possible to accomplish what I want to do with it.					
13. I can use it without written instructions.					
14. I can recover from mistakes quickly and easily.					
15. I can use it successfully every time.					
16. I don't noticed any inconsistencies as I use it.					

EASE OF LEARNING	**1**	**2**	**3**	**4**	**5**
17. It is easy to learn to use it.					
18. I learn to use it quickly.					
19. I easily remember how to use it.					
20. I quickly became skillful with it.					

SATISFACTON	**1**	**2**	**3**	**4**	**5**
21. I am satisfied with it.					
22. I would recommend it to others.					
23. I feel I need to have it.					
24. It is fun to use.					
25. It is pleasant to use.					
26. It works the way I want it to work.					

List the most **negative** aspect(s).
1.
2.
List the most **positive** aspect(s).
1.
2.

PART C: OVERALL PERCEPTION

1. What is your perception on the usage of Google Drive in Maktab Nasional? State your opinion.

2. What can be done to improve the Google Drive usage in inserting / capturing student assessment records?

3. Is there any other comments or recommendation that you would like to highlight?

4. In your opinion, how applicable/important are the google applications to you in the school?

Thank you very much for participating in this survey, I appreciate the valuable time you spent on this activity. If you have any query, please feel free to contact me on 016-8012081 or email at: romella.marie@gmail.com