	SUBJECT: BSD1323 STORYTELLING AND DATA VISUALIZATION		MARKS: 90(30%)
	TOPIC: CHAPTER 3 to CHAPTER 8		
	GROUP PROJECT	DUE DATE: 17 May - 17 June 2022	
	GROUP PROJECT MEMBERS (ID, NAMES, SECTION) 1. SD21037 WONG ZI MING 02G 2. SD21040 KEN FONG KA KIN 02G 3. SD21061 OOI ZI YING 02G 4. SD21051 SHALINI A/P MAGESWARAN 02G		

Daily Time Spent on Exercise

a) Motivation of story:

The motivation of story is to study and discuss the most effective exercise and time spent to lose weight. Many people have failed to lose weight in recent years, and this study can be a good way to prove and find out why people fail to lose weight. It can find out through several types of visualization. The story was recorded about daily exercise in 14 days. There are 11 participants in the storyline. The study was taking the daily weight before and weight after exercise provided by the participant and visualize in the story. In the storyline contains the type of exercise, the money spent, the time period, and exercised at outdoor or indoor.

b) Detail explanation of your storyline:

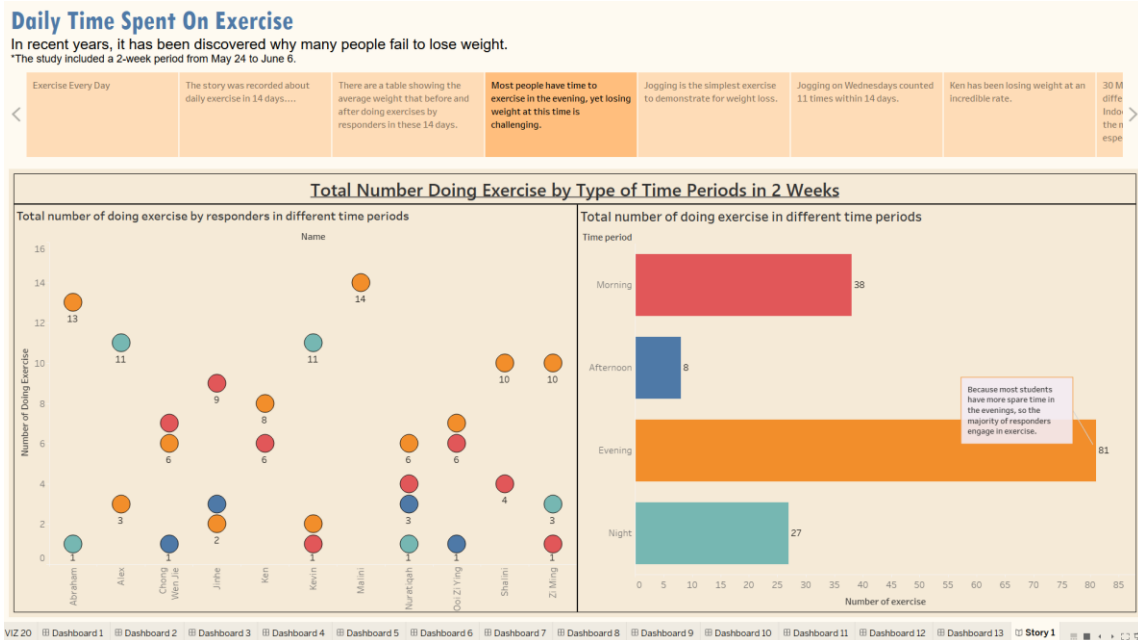
The story contains 13 pages. In the first page, it shows a cover picture and our teammates. The second page is description and motivation in the story. The storyline will starting in third page which is “There are a table showing the average weight that before and after doing exercises by responders in these 14 days.” It can be seen whether each participant was able to lose weight successfully in 14 days of exercise. In page 4, “Most people have time to exercise in the evening, yet losing weight at this time is challenging.” It can be observed when the time periods are recommended to participants used to exercising. In page 5, “Jogging is the simplest exercise to demonstrate for weight loss.” It can observe which exercise is the most popular and how much weight can lose in total. In page 6, “Jogging on Wednesdays counted 11 times within 14 days.” It can be observed that which exercise will be completed on that day. In page 7, “Ken has been losing weight at an incredible rate.” It is to observe each participant lose their weight from 24 May to 6 June and sum of weight loss over 14 days. In page 8, “30 May is a day that has the most difference time spent between Indoor and Outdoor. Kevin spent the most time on his exercise, especially in indoor exercise.” It can observe the total time spent and the total time spent by responders in weekend and weekdays. In page 9,

“Badminton has the highest total spent on Weekdays and Weekends.” It can see in which weekend or weekday the participant will do the exercise. In page 10, “The total time spent on exercise by male is more than female in 14 days.” It was compare the time spent by male and female. In page 11, “How many money spent by the responders in different city.” It can see the total money spent by each responder in specific city. In Page 12, “There were few responders spent money to did exercises from 24 May to 6 June,2022.” It can obverse the total money spent by each responder from 4 May to 6 June. In the page 13, it was a summary for the story.

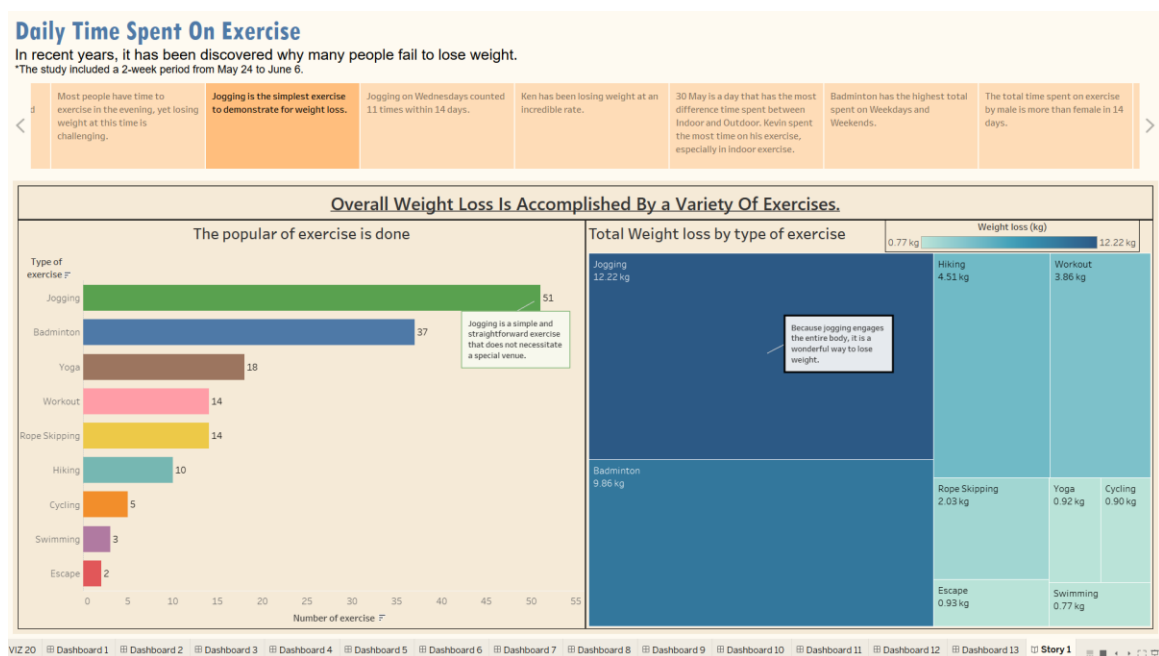
c) Detail analysis of each story point:



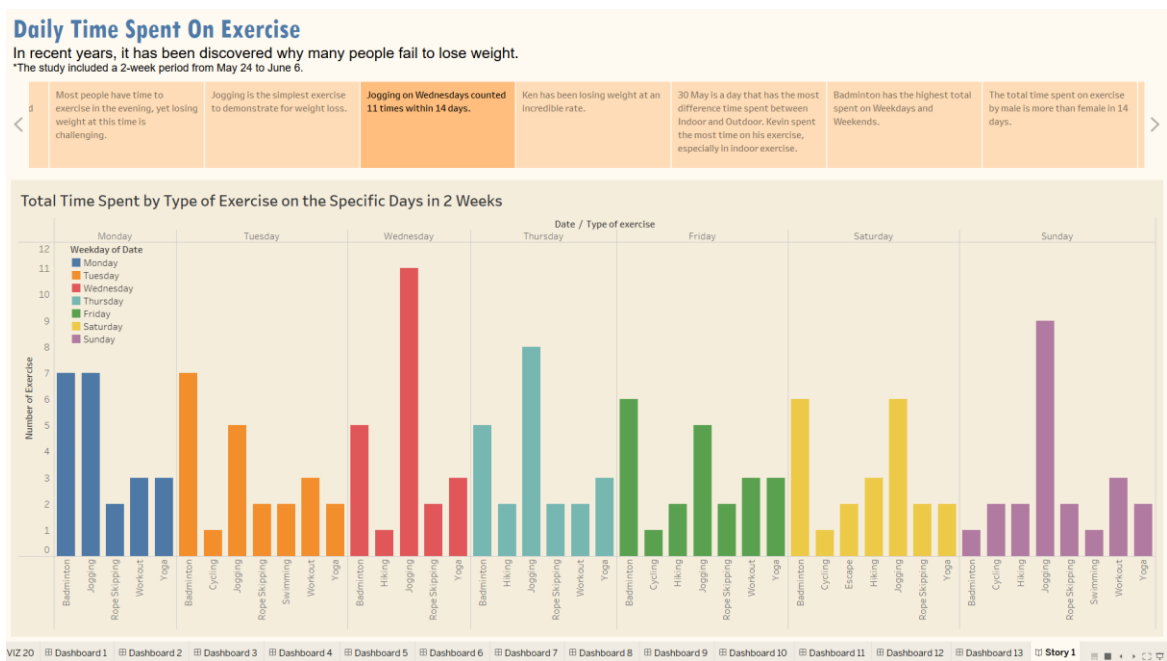
First from the storyline, in this visualization table, it can be seen 10 responders have lose their weight in 14 days exercise. Starting from weight before at 24 May and end in weight after at 6 June. But only one of the responder (Ken) did not lose weight, his weight arguably stayed the same for the 14 days. The most successful in losing weight is responder (Abraham) which is losing (3kg) compare to other responders. Whereas, the lowest weight is responder (Shalini) which is losing (0.42kg) compare to other responder.



Then to the second storyline, from the bar chart the highest total number of doing exercise in different time periods is Evening which is accorded to 81 times. Whereas the lowest total number of doing exercise in different time periods is Afternoon, which is recorded only 8 times compare to another time periods. This can be said that the afternoon is not the recommended time for everyone, maybe the weather is very hot in afternoon. From the circle views, some of the responders like to do exercise at night which is Abraham, Alex, Kevin, Nuratiqah and Ziming. The circle views, also can be seen all responders have regular exercise during the evening. And, the responder (Malini) is doing exercise in evening for 14 all days. This may because most responders are students and have spare time in the evenings, so the majority of responders engage in exercise.

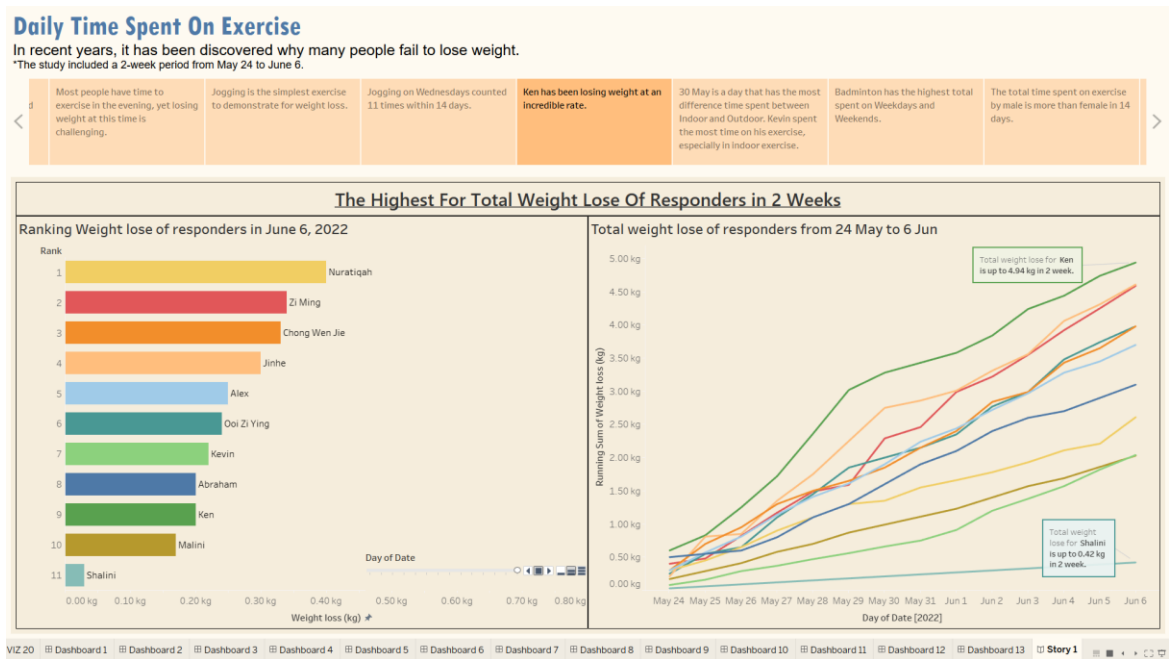


Moreover to the third storyline, this dashboard is show the overall weight loss is accomplished by a variety of exercises. It have 2 visualization, first it is the bar chat, the popular of exercise is done and the second one is the tree map, the total weight loss by type of exercise. Next, the highest for popular of exercise is done is jogging. It is up to 51 times in 2 weeks. Why jogging become highest? The reason is jogging is a simple and straightforward exercise that does not necessitate a special venue. So, people will automatically select jogging as a form of exercise since it is so convenient for them. And look at the lowest is the escape one. Escape had recorded just 2 times only. Why exercise for escape become lowest? Because escape requires going to a designated location and having to buy expensive tickets. So it is not suitable for exercise anytime and anywhere. And then, the highest total weight loss by type of exercise is also jogging. It is up to 12.22kg. It is because jogging engages the entire body, it is a wonderful way to lose weight.

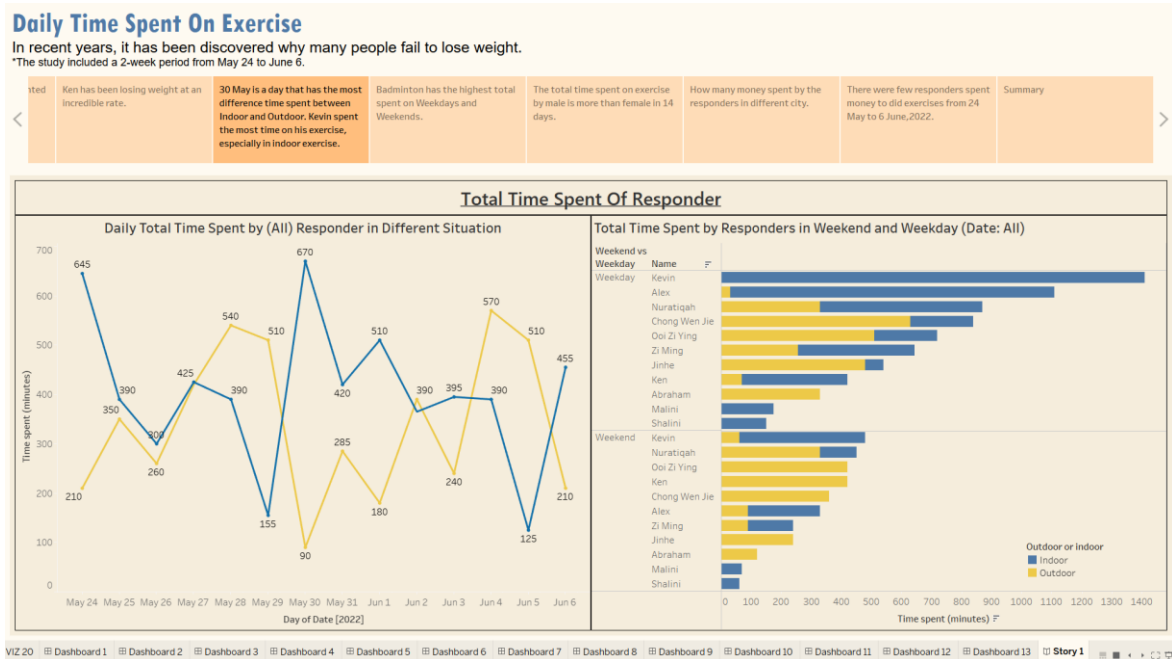


On the other hand to the fourth storyline, this visualization is show the type of exercise on the specific days in 2 weeks. On Monday, it had 2 type of exercise have been recorded the highest one, they are badminton and jogging at up to 7 times. And then, the lowest is rope skipping just 2 times only on Monday. Next, on Tuesday, the badminton also has recorded the highest at up to 7 times and the lowest is cycling just recorded 1 times only. On Wednesday, jogging has recorded the highest one for the all specific days in 2 week at up to 11 times. And the lowest on Wednesday, is the exercise for hiking just 1 times only. Furthermore, the highest number of exercise is jogging again at 8 times on Thursday, and the same time, has recorded the lowest have 3 type of exercise, they are hiking, rope skipping and workout at only 2 times. Next, on Friday, the badminton also recorded the highest number of exercise, is up to 6 times. And the lowest one is the cycling again at 1 times only. On Saturday, it have 2 type has recorded the highest, it is badminton and jogging at 6 times and the lowest one is the cycling at only 1 times. Last, the highest on

Sunday is jogging is up to 9 times and the lowest one have 2 type of exercise, they are badminton and swimming at 1 times only.



Next to the fifth storyline, this dashboard is show the highest for total weight loss of responders in 2 weeks. It is also have 2 visualization, the first one is bar chart again, is the weight loss of responders in every day. And the second one is the line chart, the total weight loss of responder from 24 May to 6 Jun. So first look at the bar chat for weight loss of responder in every day. Actually, you can press the “play” button of day of date and then can see the highest or top 3 majority is Ken. So he is become the highest for total weight loss of responders. And the same time, can look the line chart, total weight loss of Ken is always increasing and it is up to 4.94kg at the last day in 2 weeks. Next, look back the bar chart, Shalini is always keep lowest in every day. Why Shalini keep lowest for weight lose? The reason is maybe she's consuming fat very slowly, so she will lose weight is very slowly. And the same time can look the line chart, the last one line is the Shalini for total weight loss in 2 week. It is just 0.42kg only.

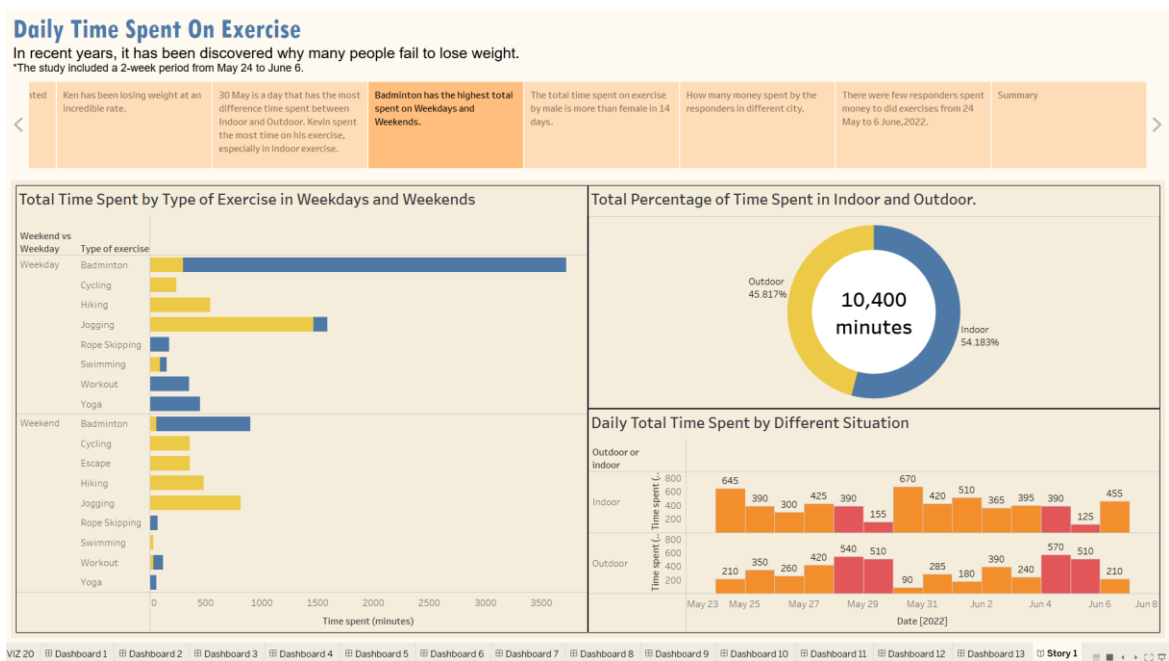


30 May 2022 is considered as it has a significant difference in time spent between indoor and outdoor exercises, with 670 minutes spent on indoor exercises, which is the highest number among the same situation days, and 90 minutes spent on outdoor exercises, which is the lowest number among the same situation days. On June 4, the responders spent the most total time doing outdoor exercise, which accounted for 570 minutes compared to other days, whereas on June 5, which is the day that has the lowest time spent by responders among the days while doing indoor exercise, recorded 125 minutes among the same situation days.

In the visual besides, it shows the total time spent by those responders on weekdays and weekend days. Overall, we can see that Kevin has spent the most total time on exercise with 14 days, which includes total time spent on weekdays and weekend days, with 1890 minutes total spent and mainly on indoor exercise. On weekdays, Kevin has spent 1410 minutes, and he did it all indoors. Then, his time spent on weekend days is separated into indoor (420 minutes) and outdoor (60 minutes). However, Shalini spent the least amount of time exercising in the period of analysis. There was only 210 minutes spent, and she did it all indoors. There were recorded 150 minutes spent on weekdays and 60 minutes spent on weekend days.

On the specific day with the most total time spent on indoor exercise, May 30, Zi Ming and Kevin spent the most total time on indoor exercise with 180 minutes on that day when compared to other responders, whereas Shalini and Malini spent the least time on indoor exercise with only 15 minutes each. It is because Zi Ming and Kevin spent 3 hours playing badminton together. Also, Shalini and Malini spent the least time on that day because they had some assignments or exams that they had to do.

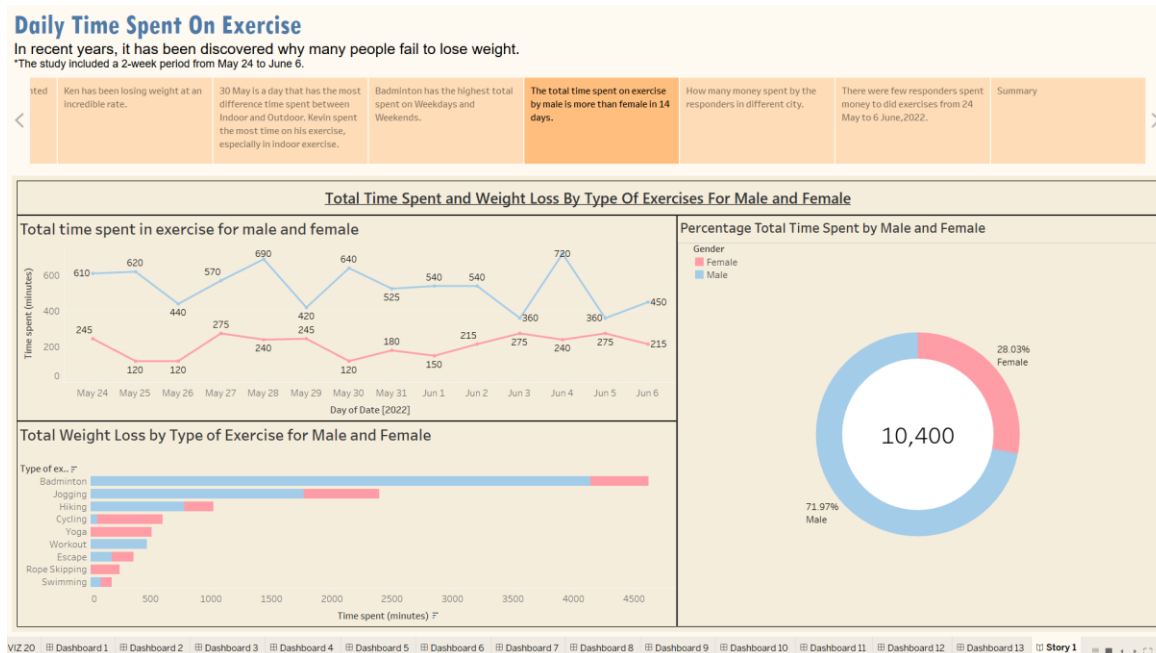
On June 4, which day is the most total time spent on outdoor exercise? On this day, a lot of time is spent on outdoor exercise by the responders compared to indoor exercise. From the bar chart, Ooi Zi Ying and Chong Wen Jie have spent the most time on outdoor exercise, with 180 minutes on that day among these responders, as they take part in escape exercise together, and this activity has a lot of time to be spent.



This story is talking about how badminton has the highest total time spent on weekdays and weekends, followed by jogging and hiking. Badminton takes the most total time by type of exercise on weekdays and weekends, according to the chart on the left. Badminton has been recorded playing for 3420 minutes indoors and 300 minutes outdoors on weekdays. On weekend days, however, it accounted for 840 minutes indoors and only 60 minutes outdoors. Besides, the lowest time spent by type of exercise is swimming, which is recorded at 60 minutes in indoor and 90 minutes in outdoor when done on weekdays, and it is only 30 minutes in outdoor on weekends. Because swimming is one of the rarest activities that the responders did, it was given the least amount of time among the types of exercise.

From the donut chart, we can see the total percentage of time spent on indoor exercises is greater than outdoor exercises, which accounted for 54.18 percent of the total 10400 minutes compared to 45.82 percent of the total 10400 minutes.

In the chart below, total time spent on indoor exercises is almost on weekdays within these 2 weeks. The day that has the highest time spent is May 30th, with 670 minutes, as mentioned before, followed by 24 May, 1 June, and so on. On the other hand, the total time spent on outdoor exercises is almost on weekend days compared to indoor exercises. The total highest time spent is on Saturday (4 June), with 570 minutes, as has been said previously, followed by 28 May, 29 May, 5 June, and so on.



Within this 14-day analysis, the visualisation shows that the total time spent by 7 male responders is greater than that of 4 female responders. By the evidence from the donut chart, we can see the percentage of total time spent by a male is higher than a female, which has 71.97 percent of total 10400 minutes and 28.03 percent of total 10400 minutes, respectively.

On the line chart, overall, there is an up and down trend for both genders from May 24 to June 6. According to the male trend, the day with the most time spent on exercise for men is June 4, with 720 minutes spent compared to the other days. Besides, the days with the least amount of exercise time are June 3 and 5, with 360 minutes spent on each. On the female trend, the days with the most time spent on exercise are May 27, June 3, and June 5, accounting for 275 minutes spent compared to the other days. Besides, the least amount of time spent exercising by females is on May 25, 26, and 30, with 120 minutes spent on each day compared to the other days.

In the bar chart below, badminton has the highest total time spent by type of exercise for both genders, with a total of 4620 minutes spent when summed up with male (4140 minutes) and female (480 minutes), followed by jogging, hiking, and other activities. On the other hand, swimming has the lowest total time by type of exercise for males and females, which is a total of 180 minutes spent when males (90 minutes) and females (90 minutes) are combined. Male and female total time spent is recorded equally.

Another view that we can see is that the type of exercise of total time spent by males more than females is badminton, jogging, hiking, and workout. That means these types of exercises are more interesting to take part in by males than females. However, the types of exercise total time spent by females more than males are yoga, cycling, and rope skipping, as they are easier and more convenient exercises to take part in as they do not require too much effort to do compared to the previous types of exercise.

Next, from the highlight table chart shows there were few responders spent money to did exercises from 24 May to 6 June, 2022. Alex and Kevin were top of responders spent money to did exercises from 24 May until 6 June 2022. Chong wen Jie and Ooi Zi Ying were same highest spent money with RM 69 ringgit on 4 June. The lowest responders a not spend money to did exercises were Abraham, Malini, and Shalini. So small conclusion, these world still have daily people are spent money to did exercises for health life.

d) Concluding remarks:

To summarise, the popular type of exercise is jogging. Most responders spent their time jogging to lose weight. Hence, we should do exercise everyday to our bodies on a regular basic. Weight loss is coming a second, mostly exercise gets relieve stress and improve a quality of life. Health is more importants than wealth.

GROUP PROJECT: MARKING SCHEME

CLO	Description	PLO mapping	Percentage	Marks
CLO2	Demonstrate the data visualization skill using an effective storytelling.	PLO2: Cognitive Skills and Functional work skills with focus on Numeracy skills C3: Application	10%	30

LEVEL OF A ACHIEVEMENT				
1 Inadequate	2 Emerging	3 Developing	4 Good	5 Excellent

QUES.	ELEMENTS	MARKS	LEVEL OF ACHIEVEMENT
1&2	a. At least 2 weeks daily data from all members. b. At least 1 Date data type in the dimension shelf. c. At least 2 Categorical/qualitative data types in the dimension shelf. d. At least 1 Geographic data type in the dimension shelf. e. At least 3 Quantitative data types in the measure shelf.	5	
3	a. A catchy title and a clear storyline. b. At least 7 story points. c. Combination of text, image, worksheets, and dashboards. d. Combination of several types of visualization from each data field types. e. Interactive visualizations (include filters and animation).	5	
TOTAL (10)			

CLO2 RUBRICS OF QUESTION 4

CRITERIA	LEVEL OF ACHIEVEMENT						WEIGHTAGE	SCORE
	0 Non-existent	1 Inadequate	2 Emerging	3 Developing	4 Good	5 Excellent		
Motivation of your story	No motivation of the story provided	Very little motivation of the story provided	Motivation of the story provided but missing all major points	Motivation of the story provided but unclear	Clear and good motivation of the story provided	Very clear and excellent motivation of the story provided	0.5	
Details explanation of the storyline	Failed to explain the storyline	Not Efficiently, effectively, and accurately explain the storyline	Partly accurate, but not effectively explain the storyline	Effectively explain the storyline but not accurate	Accurately and effectively but not efficiently explain the storyline	Accurately effectively, and efficiently explain the storyline	1	
Details analysis of each story point	Failed to analyse the story points.	Not Efficiently, effectively, and accurately analyse the story points	Partly accurate, but not effectively analyse the story points	Effectively analyse the story points	Accurately and effectively but not efficiently analyse the story points	Accurately effectively, and efficiently analyse each story point	2	
Concluding remarks	No concluding remarks provided	Very little concluding remarks provided and inaccurate	Concluding remarks provided but unclear and inaccurate	Concluding remarks provided but partly inaccurate	Clear and good concluding remarks provided	Very clear and excellent concluding remarks provided	0.5	
						TOTAL (20)		

CLO	Description	PLO mapping	Percentage	Marks
CLO3	Display a powerful data visualization, report, dashboard or stories in solving various applications using appropriate software.	PLO3: Functional work skills with focus on Practical, and Digital skills P4: Mechanism	10%	30

CRITERIA	LEVEL OF ACHIEVEMENT						WEIGHTAGE	SCORE
	0	1 Inadequate	2 Emerging	3 Developing	4 Good	5 Excellent		
Theory/ Knowledge on data visualization and dashboard	No theoretical knowledge on data visualization and dashboard observed	Very little knowledge on data visualization and dashboard observed or some information is incorrect	Some knowledge or information observed on data visualization and dashboard but missing all major points	Some knowledge or information observed on data visualization and dashboard but still missing some major points	Good knowledge on data visualization and dashboard observed, missing some minor points	Excellent knowledge on data visualization and dashboard observed; provides all necessary background principles	1	
Efficiency/ Assembly/ Tidiness	Failed to demonstrate the given task	Not efficiently, effectively and neatly demonstrated the given task	Partly efficient, but not effectively and neatly demonstrated the given task	Efficiently, but not effectively and neatly demonstrated the given task	Efficiently and effectively but not neatly demonstrated the given task	Efficiently, effectively and neatly demonstrated the given task	1	
Techniques on Story & Data Validation	Failed to create a story	Inappropriate techniques on story are demonstrated	Partly correct techniques on story are demonstrated, with partly valid data	Correct techniques on story are demonstrated, with partly valid data	Good techniques on story are demonstrated, with valid but not completely accurate data	Competent techniques on story are demonstrated, with valid and accurate data	2	
Results (the story points)	Failed to create a story	Lack of story points / zero readability of the result. Poor originality, taking credits of others work	Partly complete story points	Story points are presented but at low readability. Reader has to guess some of the missing information. Less originality, copy paste here and then	Clear and neat presentation of story points. All required results are presented. Readability. Complete with labels, title, axes, etc.	Very Clear and neat presentation of story points. All required results are presented. High readability. Complete with labels, title, axes, etc.	1	

Results (the interactive data visualization and story points)	No interactive data visualization and story points	Lack of interactive data visualization and story points / zero readability of the result. Poor originality, taking credits of others work	Very minimal interactive data visualization and story points are shown	Result presented but at low readability / some result presented. Reader has to guess some of the missing information. Less originality, copy paste here and then	Clear, neat presentation. All required results are presented. Readability. Complete with labels, title, axes, etc	Very Clear, neat presentation. All required results are presented. High readability. Complete with labels, title, axes, etc	1	
							TOTAL	30

CLO	Description	PLO mapping	Percentage	Marks
CLO4	Work collaboratively as part of a team to solve given problem through group discussion and presentation.	PLO4: Functional work skills with focus on Interpersonal skills A3: Valuing	5%	15

CRITERIA	LEVEL OF COMPETENCY					WEIGHTAGE	SCORE
	1 Very Weak	2 Weak	3 Fair	4 Good	5 Very Good		
Foster Good Relationship	No clear evidence of ability to foster good relationships and work together effectively with other group members towards goal achievement.	Able to foster relationship and work together with other group members towards goal achievement but with limited effect and require improvements.	Able to foster relationship and work together with other group members towards goal achievement with some effect(s) and require minor improvements.	Able to foster good relationship and work together with other group members towards goal achievement.	High ability to foster good relationship and work together effectively with other group members towards goal achievement.	1	
Alternate Roles	No clear evidence of ability to assume alternate roles as a group leader and group members demonstrated in practice.	Attempt to demonstrate in practice the ability to alternate roles as a group leader and group members but with limited effect and require improvements.	Able to demonstrate in practice the ability to assume alternate roles as a group leader and group members with some effect(s) and require minor improvements.	Able to demonstrate in practice the ability to assume alternate roles as a group leader and a group member to achieve the same goal.	Show clear evidence to assume alternate roles as a group leader and a group member demonstrated in practice.	1	
Respect and accept opinions	Not able to respect and accept opinion of others that leads to conflicts	Limited respect and acceptance of others' opinions in achieving group's objectives	Able to respect and accept opinion of others in achieving group's objectives	Able to well respect and accept opinion of others in achieving group's objectives	Able to very well respect and accept opinion of others in achieving group's objectives	1	
					TOTAL (15)		

***Note:** A self and peer review questions will be given to each of the student to assess their group member and their teamwork and the outcome will assist lecturer to assess the CLO4 rubric.

CLO	Description	PLO mapping	Percentage	Marks
CLO5	Demonstrate an active communication through group discussion and presentation.	PLO5: Functional work skills with focus on communication skills A3: Valuing	5%	15

CRITERIA	LEVEL OF COMPETENCY					WEIGHTAGE	SCORE
	1 Very Weak	2 Weak	3 Fair	4 Good	5 Very Good		
Clear delivery of ideas	Not able to deliver ideas clearly and require major improvements	Able to deliver ideas and require further improvements	Able to deliver ideas fairly clearly and require minor improvements	Able to deliver ideas clearly	Able to deliver ideas with great clarity	3/5	
Confident delivery of ideas	Not able to deliver ideas confidently	Able to deliver ideas with limited confidence and require further improvements.	Able to deliver ideas fairly confidently and require minor improvements	Able to deliver ideas confidently	Able to deliver ideas with great confidence	3/5	
Effective and articulate delivery of ideas	Not able to deliver ideas effectively	Able to deliver ideas with limited effect and require further improvements	Able to deliver ideas fairly effectively and require minor improvements	Able to deliver ideas effectively and articulately	Ability to deliver ideas with great effect and articulate	3/5	
Understand and respond to questions	Not able to understand and respond to a question	Able to understand and answer questions but not able to accurately answer the question	Able to understand and answer questions satisfactorily	Able to respond to questions well	Able to fully understand and respond to questions very well	3/5	
Adapt delivery to audience level	Not able to deliver appropriately to the audience level	Able to deliver ideas with limited appropriateness to the target audience and require further improvements.	Able to deliver ideas appropriately to the target audience satisfactorily	Able to deliver ideas appropriately to the target audience well	Able to fully deliver ideas appropriately very well	3/5	
TOTAL (15)							