

**Probability & Statistical Data
Analysis
(SECI 1143)**

PROJECT 1

***Attendance vs. Achievement:
Exploring the Link Between Class
Participation and Exam Scores***

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ABSTRACT

This study investigates the relationship between class attendance and exam performance among university students. Using data collected through a survey, we analyzed how attendance rates correlate with exam scores. Our findings indicate a positive relationship — students who attend classes more frequently tend to achieve higher exam scores. The study highlights the importance of consistent attendance and demonstrates the use of statistical methods and technology in analyzing real-world student behavior. These insights can help educators and students alike in making informed decisions about academic strategies for success.

1.0 Introduction

In today's competitive academic environment, maintaining consistent class attendance has become more critical than ever for student success. With the shift back to in-person classes after years of online learning due to the COVID-19 pandemic, universities are now observing new challenges in student engagement and attendance rates. Many students continue to struggle with balancing academic responsibilities, part-time work and also personal commitments. As a result, class attendance patterns have become a topic of concern for educators and administrators who seek to improve student outcomes.

The purpose of this study is to explore the relationship between class attendance and exam scores among university students. Specifically, this research focuses on students from the Faculty of Computing, who often manage heavy coursework and tight schedules. Interest in this topic arose from noticeable trends within the student community. While some students who rarely attend classes still manage to pass, many others show a strong connection between regular attendance and academic excellence. Thus, this study seeks to determine if attendance could truly be considered a reliable predictor of exam success within our own student community.

The relevance of this question stems from its connection to how students prioritize their time and manage academic responsibilities. Furthermore, with the growing availability of digital materials and recorded lectures, there is a growing debate about whether physical attendance is still necessary for academic achievement. From this study, it is expected that the findings will reveal a positive relationship, where students with higher attendance rates generally achieved higher exam scores. By gathering and analyzing real data from the target population, this research was conducted to gain a better understanding of university students' academic behaviors and their outcomes.

This paper will present the process used to collect and analyze the data, followed by the results and an interpretation of the relationship between class attendance and exam scores among students of the Faculty of Computing. Table 1 presents a detailed breakdown of the questions related to the study.

2.0 Data Collection

The methodology we used in this project to collect data was through conducting a survey via Google Form. This method was implemented from April 25, 2025, to April 30, 2025, to gather responses from the target population. The survey consists of several parts, including the personal information of the respondent, the attendance behavior of the respondent, the study habits of the respondent and their academic achievements. Some questions focus on the frequency of class attendance, study methods, study time outside of class and self-perceived understanding during lectures. In addition, we also collected data regarding CGPA and exam confidence to further analyze the relationship between class participation and academic performance. Some of the questions in the Google Form will be shown in the appendix section at the end of this project.

2.1 List of Questions

Table 2.1.1: List of Questions, Answers and Level of Measurement

No	Question	Answer	Level Of Measurement
1	Gender	<ul style="list-style-type: none">• Male• Female	Nominal
2	Year of Study	<ul style="list-style-type: none">• Year 1• Year 2• Year 3• Year 4	Nominal
3	How often do you attend class?	<ul style="list-style-type: none">• 1(Never) - 4(Always)	Ordinal
4	At what time do you usually attend your first class of the day?	<ul style="list-style-type: none">• Time	Interval
5	At what time of day do you feel most focused during class?	<ul style="list-style-type: none">• Time	Interval
6	Assume the lecture is 8am to 9:50am, what is the time that you usually scan the attendance?	<ul style="list-style-type: none">• Time	Interval
7	How many classes did you miss in last semester? (Exp: 5)	<ul style="list-style-type: none">• Short Answer	Ratio
8	Rank the following reasons for missing class based on frequency. (Select one option only for each row and column)	<ul style="list-style-type: none">• Ranking	Ordinal

	Exp: Health Issues - 1 Lack of Interest - 2 Personal Reasons - 3 Overlapping Classes - 4		
9	How many subjects did you attend just to meet attendance minimums (not for content)?	<ul style="list-style-type: none"> • 0 • 1 • 2 • 3 • 4 • 5 • 6 	Nominal
10	How likely would you attend more classes if attendance was part of your grade?	<ul style="list-style-type: none"> • 1(Very unlikely) - 4(Very likely) 	Ordinal
11	What is your preferred study method?	<ul style="list-style-type: none"> • Group study • Solo study • Online resources • Tutoring sessions 	Nominal
12	How many hours per week do you spend studying outside of class? (exp: 6)	<ul style="list-style-type: none"> • Short Answer 	Ratio
13	Did you fully understand the lecturer's teaching during class sessions?	<ul style="list-style-type: none"> • 1(Not at all) - 4(Completely) 	Ordinal
14	What was your CGPA for your last semester?	<ul style="list-style-type: none"> • Short Answer 	Ratio
15	How confident are you about your last exam?	<ul style="list-style-type: none"> • 1(Not at all) - 4(Very confident) 	Ordinal
16	How satisfied are you with your academic performance?	<ul style="list-style-type: none"> • 1(Very dissatisfied) - 4(Very satisfied) 	Ordinal
17	How helpful do you find class attendance for exam preparation?	<ul style="list-style-type: none"> • 1(Not at all) - 4(Extremely helpful) 	Ordinal

2.2 Frequency Distribution

1. Gender

Table 2.2.1: Gender Frequency Distribution of Respondents

Gender	Frequency	Relative Frequency
Male	26	0.39
Female	40	0.61
Total	66	1.00

2. Year of Study

Table 2.2.2: Year of Study Frequency Distribution of Respondents

Year	Frequency	Relative Frequency
Year 1	39	0.59
Year 2	17	0.25
Year 3	5	0.08
Year 4	5	0.08
Total	66	1.00

3. How often do you attend class?

Table 2.2.3: Frequency Distribution of Class Attendance

Level	Frequency	Relative Frequency
1 (Never)	0	0.00
2 (Occasionally)	4	0.06
3 (Often)	10	0.15
4 (Always)	52	0.79
Total	66	1.00

4. At what time do you usually attend your first class of the day?

Table 2.2.4: Frequency Distribution of Time of Respondents Usually Attend Their First Class

First Class Start Time	Frequency	Relative Frequency
8:00am	46	0.70

9:00am	10	0.15
10:00am	5	0.08
11.00am	3	0.05
2.00pm	1	0.01
3.00pm	1	0.01
Total	66	1.00

5. At what time of day do you feel most focused during class?

Table 2.2.5: Frequency Distribution of Time of Respondents Feel Most Focused During Class

Focus Time In Class	Frequency	Relative Frequency
8:00am	11	0.17
9:00am	11	0.17
10:00am	27	0.41
11.00am	8	0.12
12:00pm	3	0.05
1:00pm	1	0.01
2.00pm	2	0.03
3.00pm	0	0.00
4.00pm	1	0.01
5.00pm	2	0.03
Total	66	1.00

6. Assume the lecture is 8am to 9:50am, what is the time that you usually scan the attendance?

Table 2.2.6: Frequency Distribution of Time of Respondents Usually Scan the Attendance

Focus Time In Class	Frequency	Relative Frequency
8:00am	40	0.60
9:00am	11	0.17
9:50am	15	0.23

Total	66	1.00
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7. How many classes did you miss last semester?

Table 2.2.7: Frequency Distribution of Classes Missed in the Last Semester

Classes Missed	Frequency	Relative Frequency
0	26	0.39
1	11	0.17
2	11	0.17
3	5	0.08
4	7	0.11
5	4	0.06
6	1	0.01
10	1	0.01
Total	66	1.00

8. Rank the following reasons for missing class based on frequency.

Table 2.2.8: Frequency Distribution of Reason for Missing Class by Rank

Reason	Frequency	Relative Frequency
Health Issues	17	0.26
	15	0.23
	12	0.18
	22	0.33
Total	66	1.00
Lack of Internet	24	0.37
	14	0.21
	12	0.18
	16	0.24
Total	66	1.00

Personal Reasons	8	0.12
	14	0.21
	28	0.43
	16	0.24
Total	66	1.00
Overlapping Classes	17	0.26
	23	0.35
	14	0.21
	12	0.18
Total	66	1.00

9. How many subjects did you attend just to meet attendance minimums (not for content)?

Table 2.2.9: Frequency Distribution of Subjects Respondents Attend Just to Meet Attendance Minimums (not for content)

Number of Subject	Frequency	Relative Frequency
0	18	0.27
1	10	0.15
2	12	0.18
3	6	0.09
4	2	0.03
5	7	0.11
6	11	0.17
Total	66	1.00

10. How likely are you to attend more classes if attendance was part of your grade?

Table 2.2.10: Frequency Distribution of Class Attendance of Respondents if Attendance was Part of Their Grade

Scale	Frequency	Relative Frequency
1 (Very Unlikely)	2	0.03

2 (Unlikely)	4	0.06
3 (Likely)	11	0.17
4 (Very Likely)	49	0.74
Total	66	1.00

11. What is your preferred study method?

Table 2.2.11: Frequency Distribution of Preferred Study Method of Respondents

Preferred Study Method	Frequency	Relative Frequency
Group Study	12	0.18
Solo Study	35	0.53
Online resources	10	0.15
Tutoring session	9	0.14
Total	66	1.00

12. How many hours per week do you spend studying outside of class?

Table 2.2.12: Frequency Distribution of Weekly Study Hours of Respondents Outside of Class

Study Hours per Week Outside Class	Frequency	Relative Frequency
0	2	0.03
1	4	0.06
2	5	0.08
3	9	0.14
4	5	0.08
5	8	0.12
6	6	0.09
7	3	0.05
8	3	0.05
9	1	0.01
10	12	0.18

11	2	0.03
14	3	0.05
21	1	0.01
30	1	0.01
40	1	0.01
Total	66	1.00

13. Did you fully understand the lecturer's teaching during class sessions?

Table 2.2.13: Frequency Distribution of Level of Understanding the Lecturer's Teaching During Class Sessions

Level of Understanding	Frequency	Relative Frequency
1 (Not at all)	9	0.14
2 (Somewhat)	24	0.36
3 (Mostly)	24	0.36
4 (Completely)	9	0.14
Total	66	1.00

14. What was your CGPA for your last semester?

Table 2.2.14: Frequency Distribution of Last Semester CGPA of Respondents

CGPA Range	Frequency	Relative Frequency
2.00 - 2.49	2	0.03
2.50 - 2.99	1	0.01
3.00 - 3.49	3	0.05
3.50 - 3.74	5	0.08
3.75 - 3.89	12	0.18
3.90 - 3.99	14	0.21
4.00	29	0.44
Total	66	1.00

15. How confident are you about your last exam?

Table 2.2.15: Frequency Distribution of Level of Confidence of Respondents About Last Exam

Level of Confidence	Frequency	Relative Frequency
1 (Not at all)	6	0.09
2 (Slightly Confident)	24	0.36
3 (Moderately confident)	27	0.41
4 (Very Confident)	9	0.14
Total	66	1.00

16. How satisfied are you with your academic performance?

Table 2.2.16: Frequency Distribution of Level of Satisfaction of Respondents with their Academic Performance

Level of Satisfaction	Frequency	Relative Frequency
1 (Very dissatisfied)	6	0.09
2 (Dissatisfied)	11	0.17
3 (Satisfied)	34	0.51
4 (Very satisfied)	15	0.23
Total	66	1.00

17. How helpful do you find class attendance for exam preparation?

Table 2.2.17: Frequency Distribution of Helpfulness of Class Attendance for Exam Preparation

Level	Frequency	Relative Frequency
1 (Not at all)	4	0.06
2 (Slightly Helpful)	20	0.30
3 (Moderate helpful)	22	0.34
4 (Extremely helpful)	20	0.30
Total	66	1.00

3.0 Data Analysis

3.1 Categorical Data

3.1.1 Gender of respondents

Question 1: Gender (Nominal)

Gender of Student

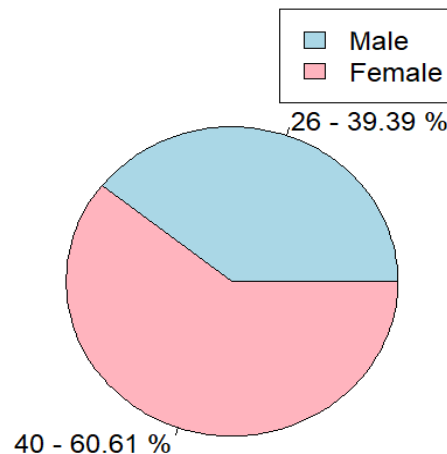


Figure 3.1.1.1 Graph of Gender of Students

Table 3.1.1.1: Numerical Representation of Gender of Students

Gender	Code	Sample Size	Proportion (%)
Male	1	26	39.39
Female	0	40	60.61
Total	-	66	100.00

Table 3.1.1.2: Measure of Central Tendency of Gender of Students

Mean	0.394
Mode	Female (code=0)
Median	Female (code=0)

Figure 3.1.1.1 and Table 3.1.1.1 show the sample size and proportion of gender of students and Table 3.1.1.2 shows the measure of central tendency of gender of students based on the numerical code. The categorical variable Gender is converted into a numerical format using label encoding: Male=1, Female=0. Among a total sample of 66 respondents, 26 are identified as male and 40 as female. This corresponds to 39.39% of

males and 60.61% of females. The data shows a higher representation of females in the sample. The value of the mean is 0.394 while both the mode and median of the gender are female (code 0).

3.1.2 Year of Study

Question 2: Year of Study (Nominal)

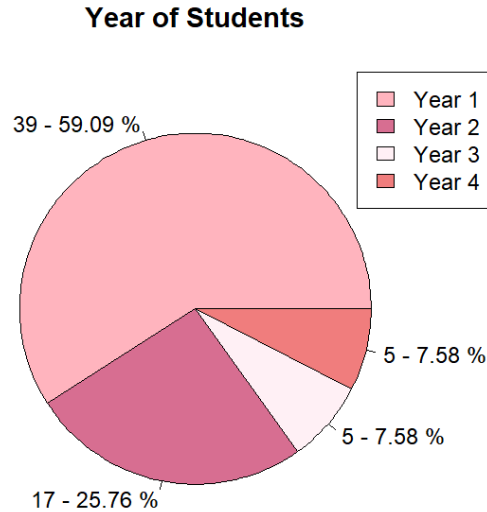


Figure 3.1.2.1 Pie Chart: Distribution of Students in Each Year of Study

Table 3.1.2.1: Numeric Representation of Students in Each Year of Study

Year	Code	Sample Size	Proportion (%)
Year 1	1	39	59.09
Year 2	2	17	25.76
Year 3	3	5	7.58
Year 4	4	5	7.58
Total	-	66	100.00

Table 3.1.2.2: Measure of Central Tendency of Students in Each Year of Study

Mean	1.64
Mode	Year 1 (Code=1)
Median	Year 1 (Code=1)

Figure 3.1.2.1 and Table 3.1.2.1 show the sample size and proportion of students in each year of study. Table 3.1.2.2 shows the measure of central tendency of students in each year of study based on the numerical code. The categorical variable Year was converted into numerical code for analysis, with Year 1=1, Year 2=2, Year 3=3 and Year 4=4.

Among 66 sample sizes, the highest response was from Year 1 (Code 1) students, including 39 individuals, with approximately 59.09% of the total responses. Then, it is followed by almost 25.76% of 17 Year 2 (Code 2) students. Both Year 3 (Code 3) and Year 4 (Code 4) had an equal and lowest of 5 respondents each, which is 7.58% respectively. This distribution shows a concentration of responses from Year 1 (Code 1). The mean year of students was approximately 1.64, while the median and mode were both year 1 (Code 1) students. This highlights that most data were collected from year 1 students.

3.1.3 Student Class Attendance Frequency

Question 3: How often do you attend class? (Ordinal)

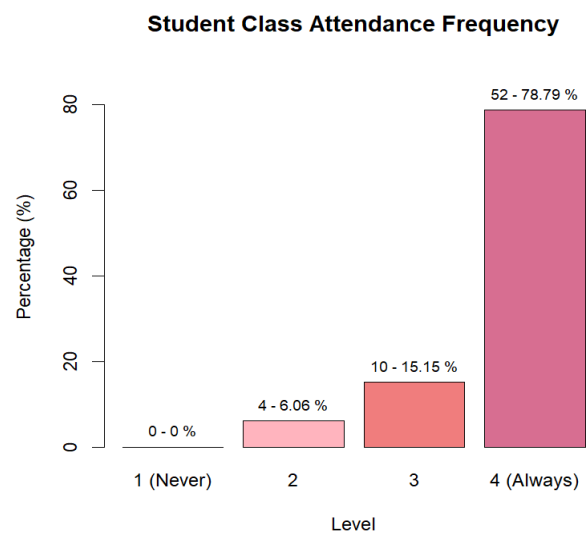


Figure 3.1.3.1 Bar Chart: Student Class Attendance Frequency

Table 3.1.3.1: Numeric Representation of Students' Class Attendance Frequency

Level	Code	Sample size	Proportion (%)
1 (Never)	1	0	0
2 (Occasionally)	2	4	6.06
3 (Often)	3	10	15.15
4 (Always)	4	52	78.79
Total	-	66	100.00

Table 3.1.3.2: Measure of Central Tendency of Students' Class Attendance Frequency

Mean	3.73
Mode	4 (Always) (Code=4)

Median	4 (Always) (Code=4)
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Figure 3.1.3.1 and Table 3.1.3.1 show the sample size and proportion of student class attendance frequency. Table 3.1.3.2 shows the measure of central tendency of students' class attendance frequency based on the numerical code. The categorical variable Level was numerically coded for analysis as 1=Never, 2=Occasionally, 3=Often, 4=Always. Out of 66 respondents, the majority of 52 individuals which included 78.79% of people selected Level 4 (Always). This indicates a high frequency of students always attending the class. Then, it is followed by Level 3 which was chosen by 10 respondents which is equal to 15.15% while Level 2 is chosen by 4 respondents which is 6.06%. No respondents who chose Level 1 (Never) proved that none of the participants never attended the class. This distribution shows a clear trend towards students always attending the class. The mean of students' class attendance frequency is 3.73 while both mode and median are 4. This indicates that most of the students attend the classes as required.

3.1.4 Reasons for Missing Class by Rank

Question 8: Rank the following reasons for missing class based on frequency.

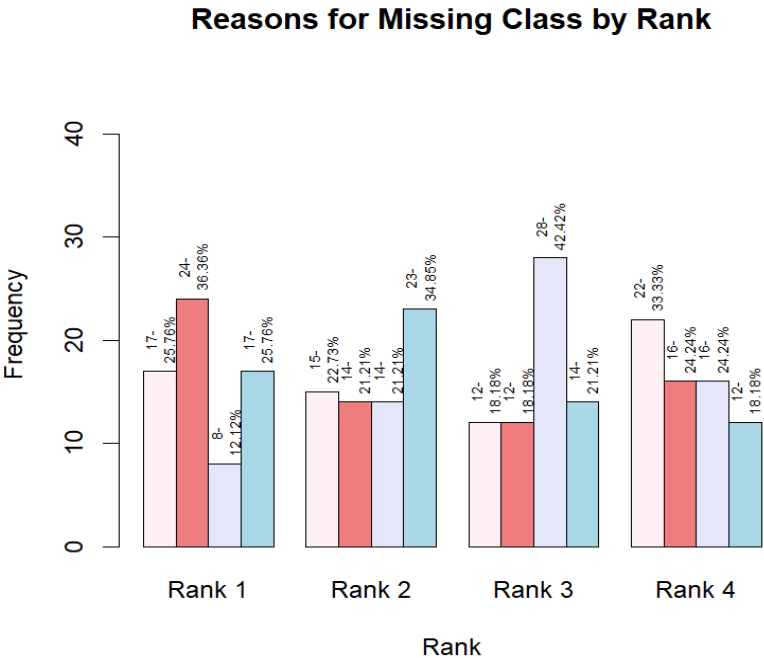


Figure 3.1.4.1 Graph of Reasons for Missing Class by Rank

Table 3.1.4.1: Numeric Representation of Reasons for Missing Class by Rank

Reason	Rank	Code	Sample size	Proportion
Health Issues	1	1	17	25.76
	2	2	15	22.73
	3	3	12	18.18
	4	4	22	33.33
Total	-	-	66	100.00
Lack of Internet	1	1	24	36.36
	2	2	14	21.21
	3	3	12	18.18
	4	4	16	24.24
Total	-	-	66	99.99
Personal Reasons	1	1	8	12.12
	2	2	14	21.21
	3	3	28	42.42
	4	4	16	24.24
Total	-	-	66	99.99
Overlapping Classes	1	1	17	25.76
	2	2	23	34.85
	3	3	14	21.21
	4	4	12	18.18
Total	-	-	66	100.00

Table 3.1.4.2: Measure of Central Tendency of Reason for Missing Class by Rank

Health issue	Mean	2.59
	Mode	Rank 4 (Code=4)
	Median	Rank 3 (Code=3)
Lack of Internet	Mean	2.30

	Mode	Rank 1 (Code=1)
	Median	Rank 2 (Code=2)
Personal Issues	Mean	2.79
	Mode	Rank 3 (Code=3)
	Median	Rank 3 (Code=3)
Overlapping Classes	Mean	2.32
	Mode	Rank 2 (Code=2)
	Median	Rank 2 (Code=2)

Figure 3.1.4.1 and Table 3.1.4.1 show the sample size and proportion of reasons for missing class by rank. Table 3.1.4.2 shows the measure of central tendency of reason for missing class by rank based on the numerical code. The reasons were divided into health issues, lack of internet, personal issues and overlapping classes. Each reason was ranked from 1 (most important) to 4 (least important) and numerical code of 1=Rank 1, 2=Rank 2, 3=Rank 3, 4=Rank 4.

For health issues category, the highest frequency was Rank 4 (Code 4) which was chosen by 33.33% of 22 respondents, followed by Rank 1 (Code 1) with 25.76% of 17 respondents, then Rank 2 (Code 2) with 22.73% of 15 respondents and Rank 3 (Code 3) with 18.18% of 12 respondents. The mean is 2.59 while the mode is Rank 4 (Code 4) and median is Rank 3 (Code 3). This indicates that health issues are commonly cited but are overall ranked lower among competing reasons.

For the internet category, the most responses were in Rank 1 (Code 1) with 36.36% of 24 respondents, followed by Rank 4 (Code 4) with 24.24% of 16 respondents, then Rank 2 (Code 2) with 21.21% of 14 respondents and the lowest in Rank 3 (Code 3) with 18.18% of 12 respondents. The mean for the reason of lack of internet is 2.30 while the mode is Rank 1 (Code 1) and the median is Rank 2 (Code 2). This shows that the internet issues are often seen as a cause for missing courses.

In the personal issues category, the highest frequency was Rank 3 (Code 3) with 42.42% of 28 respondents, followed by Rank 4 (Code 4) with 24.24% of 14 respondents, then Rank 2 (Code 2) with 21.21% of 14 respondents and the lowest in Rank 1 (Code 1) with 12.12% of 8 respondents. The mean of the personal issue category is 2.79 while both mode and median is Rank 3 (Code 3). This indicates that personal issues are often seen as moderate to high reasons for absence.

For overlapping classes, the highest number of responses was in Rank 2 (Code 2) with 34.85% of 23 respondents, followed by Rank 1 (Code 1) with 25.76% of 17 respondents, then Rank 3 (Code 3) with 21.21% of 14 respondents and the lowest in Rank 4 (Code 4)

with 18.18% of 12 respondents. The mean of the overlapping classes is 2.32 while both the mode and median are Rank 2 (Code 2). This indicates that students are generally seen as secondary.

In conclusion, although all four categories have equal total responses of 66 responses each, the distribution by rank, frequency and percentage shows different perceptions of each reason. Personal issues have the highest average rank mean of equal 2.79, followed by health issues with mean of 2.59 , then overlapping of classes whose mean is 2.32 and the lowest is lack of internet which has mean of 2.30. These findings show that students rank personal issues and health reasons as more crucial reasons to miss a class while the internet and overlapping of classes as lower ranking.

3.1.5 Number of Subjects Attended To Meet Attendance Minimum

Question 9: How many subjects did you attend just to meet attendance minimums (not for content)? (Ordinal)

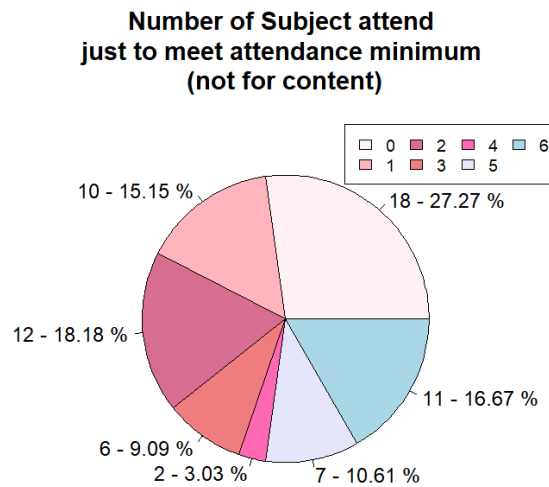


Figure 3.1.5.1 Pie Chart: Number of Subjects Attended Just to Meet Attendance Minimum (not for content)

Table 3.1.5.1: Numeric Representation of Number of Subject Attended Just to Meet Attendance Minimum (not for content)

Number of Subject	Code	Sample Size	Proportion (%)
0	0	18	27.27
1	1	10	15.15
2	2	12	18.18
3	3	6	9.09
4	4	2	3.03

5	5	7	10.61
6	6	11	16.67
Total	-	66	100.00

Table 3.1.5.2: Measure of Central Tendency of Number of Subject Attended Just to Meet Attendance Minimum (not for content)

Mean	2.4
Mode	0 subject (Code 0)
Median	2 subject (Code 2)

Figure 3.1.5.1 and Table 3.1.5.1 show the sample size and proportion of number of subjects attended just to meet the attendance minimum not for content and Table 3.1.5.2 shows the measure of central tendency of the number of subjects attended just to meet the attendance minimum based on the numerical code. The variable Number of Subjects of 0 to 6 was analyzed numerically using coding from 0 to 6. Out of 66 total respondents, the most common number of subjects just to meet attendance minimum is 0 (Code 0) with 18 participants which is 27.27% of respondents. This shows no subject is taken to meet the attendance minimum not for content. It is followed by 18.18% of 12 respondents chose 2 number of subjects (Code 2), 16.67% of 11 respondents chose 6 number of subjects (Code 6), 15.15% of 10 respondents chose 1 number of subjects (Code 1), 10.61% of 7 respondents chose 5 number of subjects (Code 5), 9.09% of 6 respondents chose 3 number of subjects (Code 3), and the lowest 3.03% of 6 respondents chose 4 number of subjects (Code 4). The mean number of subjects to meet the attendance minimum was approximately 2.44 while the mean was 2 subjects (Code 2) and the mode was 3 subjects (Code 3). These results indicate that on average, students attend two to three subjects just to meet the attendance minimum but not for content.

3.1.6 Student Class Attendance Frequency if Attendance Was Part of Grade

Question 10: How likely would you attend more classes if attendance was part of your grade? (Ordinal)

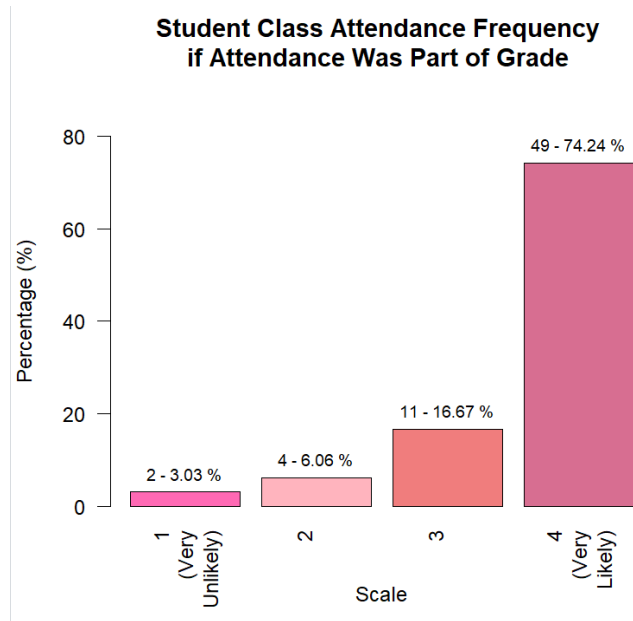


Figure 3.1.6.1 Bar Chart: Student Class Attendance Frequency if Attendance Was Part of Grade

Table 3.1.6.1: Numeric Representation of Student Class Attendance if Attendance Was Part of Grade

Scale	Code	Sample size	Proportion (%)
1 (Very Unlikely)	1	2	3.03
2 (Unlikely)	2	4	6.06
3 (Likely)	3	11	16.67
4 (Very Likely)	4	49	74.24
Total	-	66	100.00

Table 3.1.6.2: Measure of Central Tendency of Student Class Attendance if Attendance Was Part of Grade

Mean	3.62
Mode	4 (Very Likely) (Code 4)
Median	4 (Very Likely) (Code 4)

Figure 3.1.6.1 and Table 3.1.6.1 show the sample size and proportion of student class attendance if attendance was part of the grade based on the numerical code. Table 3.1.6.2 shows the measure of central tendency of student class attendance frequency if attendance was part of the grade. The responses were numerically labeled as 1=Very Unlikely, 2=Unlikely, 3=Likely, 4=Very Likely. Among 66 respondents, a majority of 74.24% which is 49 respondents selected Very Likely (Code 4), followed by Likely at

16.67% which involved 11 respondents. Then, only very few people selected Unlikely (Code 2) and Very Likely (Code 1) which were just 6.06% which is 4 people and 3.03% which is 2 people. The mean score is approximately 3.62, proving that a strong leaning to positive likelihood. Both median and mode were also 4 which indicates the most frequent and central response to “Very Likely.”.

3.1.7 Students' Preferred Study Method

Question 11: What is your preferred study method? (Nominal)

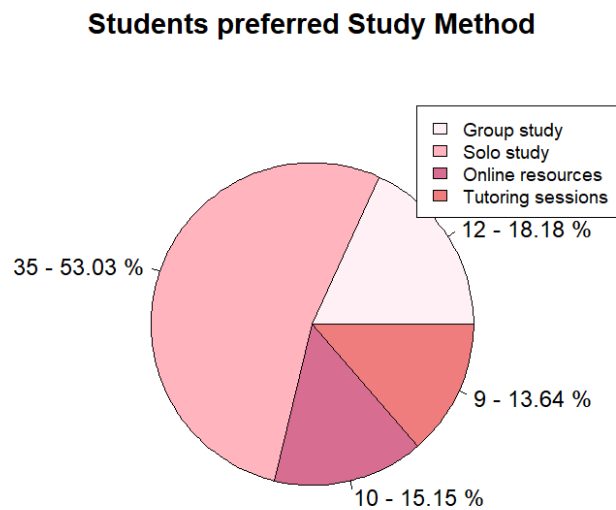


Figure 3.1.7.1 Pie Chart: Students' preferred Study Method

Table 3.1.7.1: Numeric Representation of Students' Preferred Study Method

Preferred Study Method	Code	Sample size	Proportion (%)
Group Study	1	12	18.18
Solo Study	2	35	53.03
Online resources	3	10	15.15
Tutoring session	4	9	13.64
Total	-	66	100.00

Table 3.1.7.2: Measure of Central Tendency of Students' Preferred Study Method

Mean	2.24
Mode	Solo Study (Code 2)
Median	Solo Study (Code 2)

Figure 3.1.7.1 and Table 3.1.7.1 show the sample size and proportion of students' preferred study methods. Table 3.1.7.2 shows the measure of central tendency of students' preferred study method based on numerical code. The variable Preferred Study Method was analyzed using numerical code 1=Group Study, 2=Solo Study, 3=Online Resources, 4=Tutoring Session. Among 66 participants, the majority of 53.03% which is 35 people preferred Solo Study (Code 2), followed by 18.18% of 12 people preferred Group Study (Code 1), 15.15% of 10 people preferred Online Resources (Code 3) and 13.64% of 9 people preferred Tutoring Sessions (Code 4). The mean was approximately 2.24 while the median and mode are both Solo Study (Code 2). This indicates Solo Study not only chosen most frequently but also represents a central tendency. These results show that the individual study is the most preferred study method among the respondents.

3.1.8 Level of Understanding From Lectures

Question 13: Did you fully understand the lecturer's teaching during class sessions?
(Ordinal)

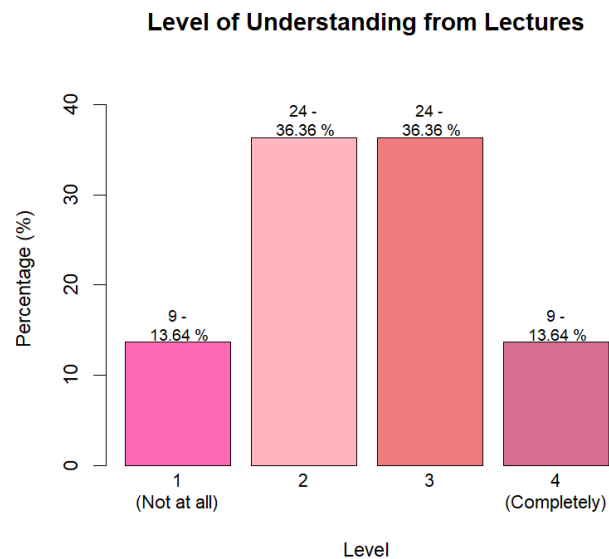


Figure 3.1.8.1 Bar Chart: Level of Understanding From Lectures

Table 3.1.8.1: Numeric Representation of Level of Understanding From Lectures

Level of Understanding	Code	Sample size	Proportion (%)
1 (Not at all)	1	9	13.64
2 (Somewhat)	2	24	36.36
3 (Mostly)	3	24	36.36
4 (Completely)	4	9	13.64
Total	-	66	100.00

Table 3.1.8.2: Measure of Central Tendency of Level of Understanding From Lectures

Mean	2.5
Mode	Somewhat and Mostly (Code 2 and 3)
Median	2.5

Figure 3.8.1.1 and Table 3.8.1.1 show the sample size and proportion of the level of understanding from lectures and Table 3.8.1.2 shows the measure of central tendency of level of understanding from lectures based on the numerical code.. The variable Level of Understanding was coded as 1=Not at all, 2=Somewhat, 3=Mostly, 4=Completely. The responses were mostly contributed between Somewhat (code 2) and Mostly (code 3) which each of them are selected by 36.36% of 24 respondents. Both Not at all (Code 1) and Completely (Code 4) had a lower frequency of 9 people which were 13.64%. Both the mean and median of the level of understanding were 2.5, which indicates a balance between moderate and higher levels of understanding. Since Somewhat (Code 2) and Mostly (Code 3) were most frequent, the mode is bimodal. This indicates that most participants rated their understanding between average and good.

3.1.9 Confidence about Last Semester Examination

Question 15: How confident are you about your last exam? (Ordinal)

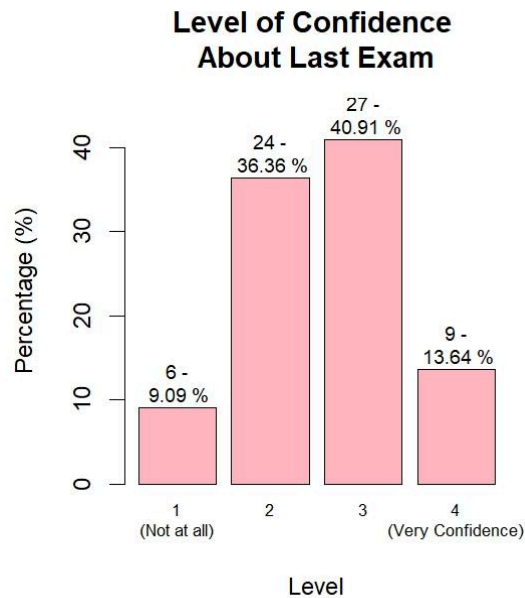


Figure 3.9.1.1 Bar Chart: Level of Confidence About Last Exam

Table 3.1.9.1: Numeric Representation of Level of Confidence About Last Exam

Level of Confidence	Code	Sample size	Proportion (%)
1 (Not at all)	1	6	9.09
2 (Slightly Confident)	2	24	36.36
3 (Moderately confident)	3	27	40.91
4 (Very Confident)	4	9	13.64
Total	-	66	100.00

Table 3.1.9.2: Measure of Central Tendency of Level of Confidence About Last Exam

Mean	2.59
Mode	Moderately Confident (Code 3)
Median	Moderately Confident (Code 3)

Figure 3.1.9.1 and Table 3.1.9.1 show the sample size and proportion of confidence levels about the last exam. Table 3.1.9.2 shows the measure of central tendency of level of confidence about the last exam based on the numerical code. The variable Level of Confidence was coded as 1=Not at all, 2=Slightly Confident, 3=Moderately Confident and 4=Very Confident. Among 66 respondents, the majority of 27 participants which is equal to 40.91% chose Moderately Confident (Code 3), followed by Slightly Confident (Code 2) selected by 24 people which is 36.36%. Only 13.64% of 9 people chose Very Confident (Code 4) and 9.09% of 6 people chose Not at all (Code 1). The mean level of confidence was 2.59 while the mode and median were Moderately Confident (Code 3). This indicates that most participants felt moderately confident.

3.1.10 Level of Satisfaction With Academic Performance

Question 16: How satisfied are you with your academic performance? (Ordinal)

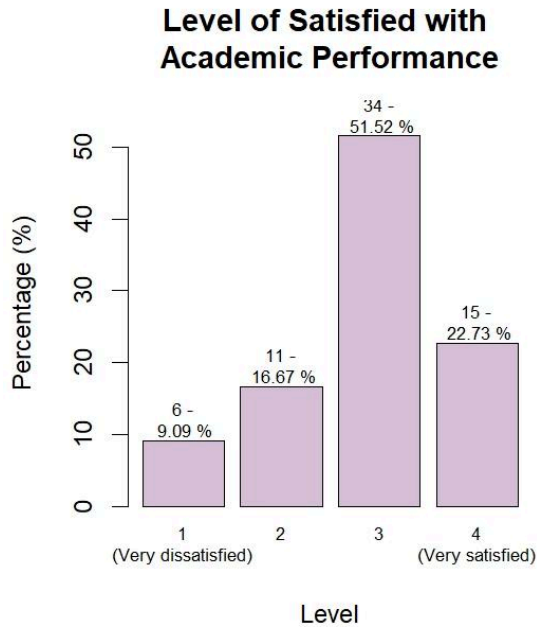


Figure 3.1.10.1 Bar Chart: Level of Satisfaction with Academic Performance

Table 3.1.10.1: Numeric Representation of Level of Satisfaction with Academic Performance

Level of Satisfaction	Code	Sample size	Proportion (%)
1 (Very dissatisfied)	1	6	9.09
2 (Dissatisfied)	2	11	16.67
3 (Satisfied)	3	34	51.52
4 (Very satisfied)	4	15	22.73
Total	-	66	100.00

Table 3.1.10.2: Measure of Central Tendency of Level of Satisfaction with Academic Performance

Mean	2.88
Mode	Satisfied (Code 3)
Median	Satisfied (Code 3)

Figure 3.1.10.1 and Table 3.1.10.1 show the sample size and proportion of level of satisfaction with academic performance. Table 3.1.10.2 shows the measure of central tendency of level of satisfaction with academic performance based on numerical value. The variable Level of Satisfaction was coded as 1=Very dissatisfied, 2=Dissatisfied, 3=Satisfied and 4=Very satisfied. Among 66 participants, more than half of the participants which were 34 people of 51.52% selected Satisfied (Code 3), followed by

Very satisfied (Code 4) at 22.73% of 15 people. Less respondents, of which only 16.67% of 11 people choose Dissatisfied (Code 2) and 9.09% of 6 people choose Very Dissatisfied (Code 1). The mean of the level of satisfaction was 2.88 while both mode and median were satisfied (Code 3). This indicates the highest frequency of students satisfied with their academic performance and the central tendency of satisfaction.

3.1.11 Helpfulness of Class Attendance for Exam Preparation

Question 17: How helpful do you find class attendance for exam preparation? (Ordinal)

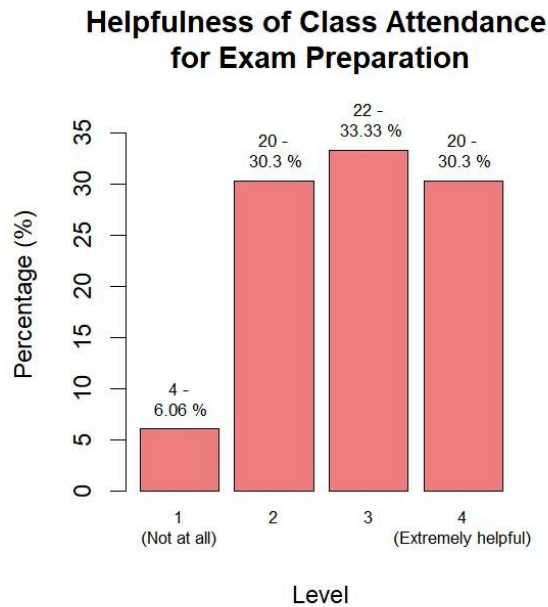


Figure 3.1.11.1 Bar Chart: Helpfulness of Class Attendance for Exam Preparation

Table 3.1.11.1: Numeric Representation of Helpfulness of Class Attendance for Exam Preparation

Level	Code	Sample size	Proportion (%)
1 (Not at all)	1	4	6.06
2 (Slightly Helpful)	2	20	30.30
3 (Moderate helpful)	3	22	33.33
4 (Extremely helpful)	4	20	30.30
Total	-	66	99.99

Table 3.1.11.2: Measure of Central Tendency of Helpfulness of Class Attendance for Exam Preparation

Mean	2.88
Mode	Moderate helpful (Code 3)
Median	Moderate helpful (Code 3)

Figure 3.1.11.1 and Table 3.1.11.1 show the sample size and proportion of helpfulness of class attendance for exam preparation. Table 3.1.11.2 shows the measure of central tendency of helpfulness of class attendance for exam preparation based on the numerical code. The variable Level of Helpfulness was coded as 1=Not at all, 2=Slightly helpful, 3=Moderately helpful and 4=Extremely helpful. The majority of respondents, 33.33% of 22 people rated the helpfulness level as moderate (Code 3) and 30.30% of 20 people rated the helpfulness level as extreme (Code 4) and slightly helpful (Code 2). Only a small portion of 6.06% of 4 respondents choose Not at all (Code 1). The mean of level of helpfulness is 2.88 while both mode and median are Moderate helpful (Code 3). This indicates that most participants found the class attendance to be overall moderately to extremely helpful to exam preparation.

3.2 Numerical Data

3.2.1 Time that Students Usually Attend their First Class of the Day

Question 4: At what time do you usually attend your first class of the day?

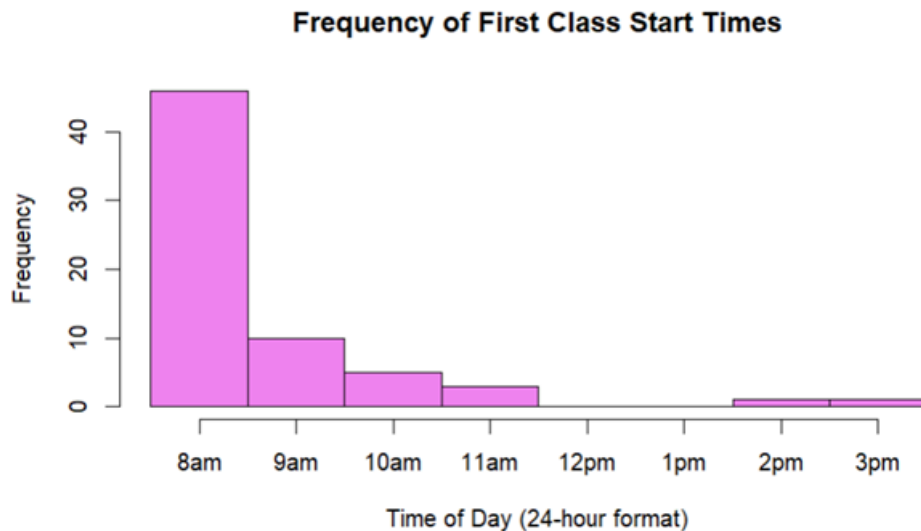


Figure 3.2.1.1 Histogram: First Class Start Times

Table 3.2.1.1: Frequency Distribution of Students' First Class Start Times

First Class Start Times	Frequency
8:00am	46
9:00am	10
10:00am	5
11:00am	3
2:00pm	1
3:00pm	1

Table 3.2.1.2: Measure of Central Tendency of First Class Start Times

Measure of Central Tendency	Value (Times)
Mean	8:21am
Median	8:00am
Mode	8:00am

As seen in Table 3.2.1.1, the majority of respondents (46 out of 66) reported that their first class of the day starts at 8:00 am, followed by 9:00 am which has 10 students. Fewer students begin at 9:00 am (10 respondents), while even fewer start at 10:00 am or later. Table 3.2.1.2 shows the mean start time is 8:21am, slightly later than the median and mode, which are both 8:00 am, indicating that most students have early classes with a few outliers pushing the average later. Furthermore, Figure 3.2.1.1 shows a right-skewed distribution, confirming that while most students start early, some have later schedules.

3.2.2 Time that Students Feel Most Focused during the Class

Question 5: At what time of day do you feel most focused during class?

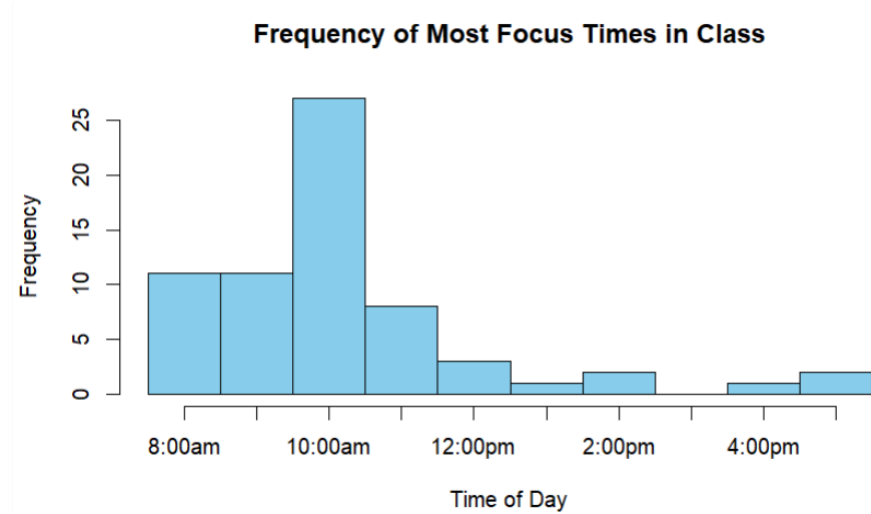


Figure 3.2.2.1 Histogram: Students' Most Focused Times in Class

Table 3.2.2.1: Frequency Distribution of Students' Most Focused Times in Class

Focus Times in Class	Frequency
8:00am	11
9:00am	11
10:00am	27
11:00am	8
12:00pm	3
1:00pm	1
2:00pm	2
3:00pm	0
4:00pm	1
5:00pm	2

Table 3.2.2.2: Measure of Central Tendency of Respondents' Most Focus Times in Class

Measure of Central Tendency	Value (Times)
Mean	10:11am
Median	10:00am

Mode	10:00am
------	---------

As shown in Table 3.2.2.1 and Figure 3.2.2.1, 27 students selected 10:00am as the hour when they are most focused. 8:00am and 9:00am ranked as the second most common times, with 22 students selecting the two times. According to Table 2.2, the mean focus time is 10:11am, which is very close to the median and mode (both 10:00am), suggesting this is the time when focus peaks. Furthermore, Figure 3.2.2.1 shows the peak at 10:00am, with attention declining in the afternoon. This indicates that while some students are awake early, mid-morning is optimum for learning.

3.2.3 Attendance Scan Times

Question 6: Assume the lecture is 8am to 9:50am, what is the time that you usually scan the attendance?

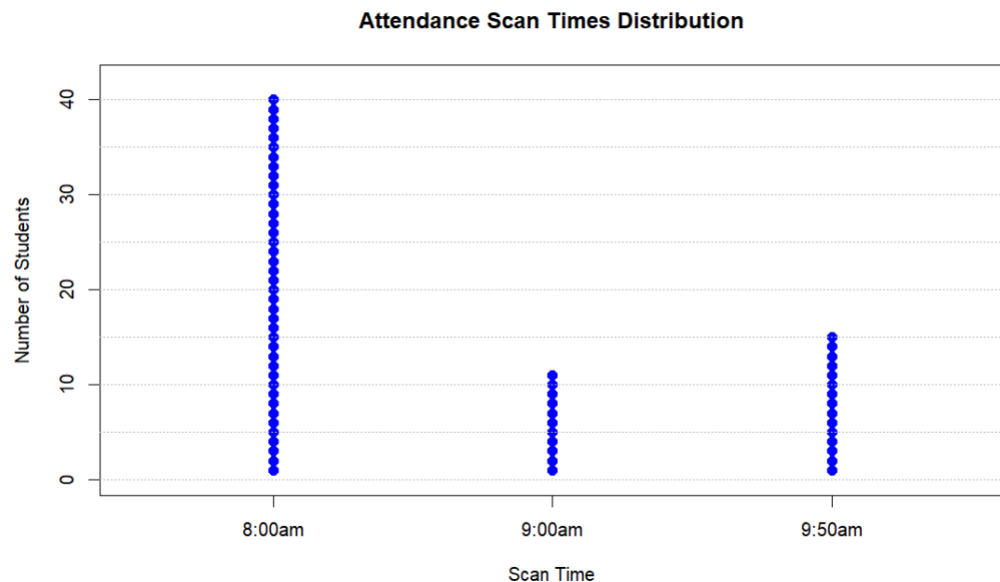


Figure 3.2.3.1: Dot Plot of Attendance Scan Times

Table 3.2.3.1: Frequency Distribution of Attendance Scan Times

Attendance Scan Time	Frequency	Cumulative Frequency
8:00am	40	40
9:00am	11	51
9:50am	15	66

Table 3.2.3.2: Measure of Central Tendency of Students' Attendance Scan Times

Measure of Central Tendency	Value
Mean	8:35am
Median	8:00am
Mode	8:00am

Based on Table 3.2.3.1, the majority of respondents (40 out of 66) scan their attendance at the beginning of class (8:00 am), with 11 scanning at 9:00 am and 15 scanning at the end (9:50 am). The dot plot from Figure 3.2.3.1 reflects that most scans are done early. Referring to Table 3.2.3.2, the mean scan time is 8:35 am, but the median and mode are both 8:00 am, suggesting a right-skewed distribution due to later scans pulling the mean upward. This implies that while punctuality is emphasized by many instructors, some use attendance checks to ensure students remain until the end.

3.2.4 No. of Classes Missed in Last Semester

Question 7: How many classes did you miss in the last semester?

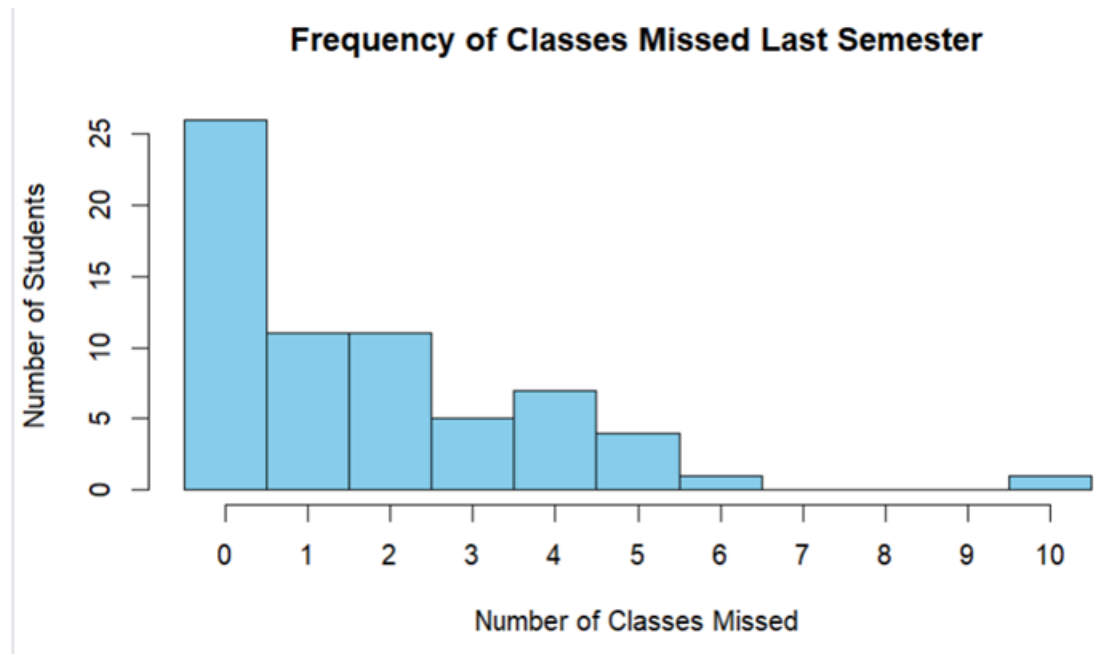


Figure 3.2.4.1 Histogram: Classes Missed in the Previous Semester

Table 3.2.4.1: Frequency Distribution of Classes Missed in the Previous Semester

Classes Missed	Frequency
0	26
1	11
2	11
3	5
4	7
5	4
6	1
10	1

Table 3.2.4.2: Measure of Central Tendency of Classes Missed in the Previous Semester

Measure of Central Tendency	Value
Mean	1.53
Median	2.00
Mode	0.00

Table 3.2.4.1 shows that in the previous semester, 26 out of 66 respondents missed no classes, while the remaining students reported missing between 1 and 10 classes. The histogram in Figure 3.2.4.1 is right-skewed, with a mode of 0 and a mean of 1.53 missed classes. In Table 3.2.4.2, it shows that median of 2 is higher than the mean, indicating that a few students with high absenteeism such as 10 missed classes and skewed the data. This indicating that the majority of students attend but a small number miss many classes.

3.2.5 No. of Subjects Attended Just to Meet the Attendance Minimums (Not for Content)

Question 9: How many subjects did you attend just to meet attendance minimums (not for content)?

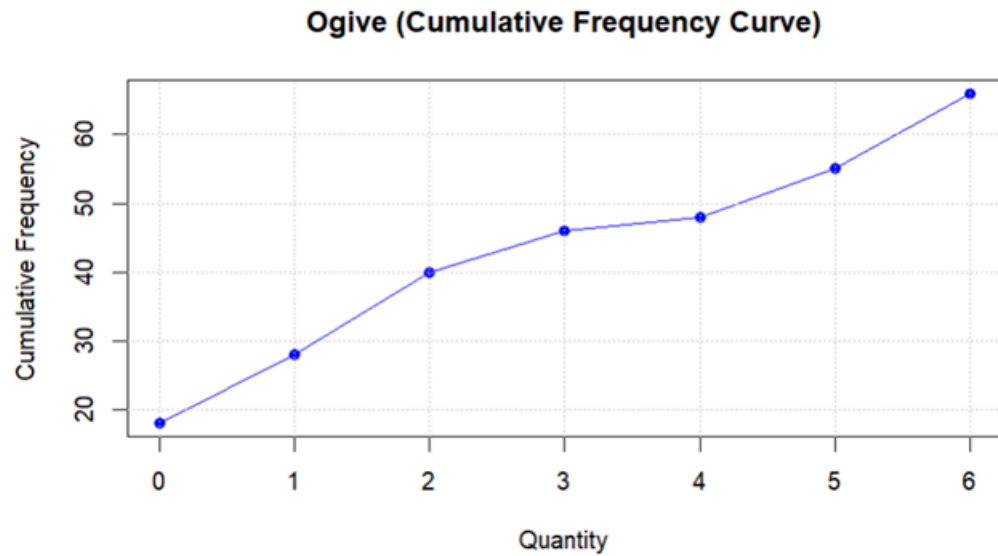


Figure 3.2.5.1 Ogive: Subjects Attended Only to Fulfill Attendance Requirements

Table 3.2.5.1: Frequency Distribution of Subjects Attended Only to Fulfill Attendance Requirements

Number of Subjects	Frequency	Cumulative Frequency
0	18	18
1	10	28
2	12	40
3	6	46
4	2	48
5	7	55
6	11	66

Table 3.2.5.2: Measure of Central Tendency of Subjects Attended Only to Fulfill Attendance Requirements

Measure of Central Tendency	Value
Mean	2.23
Median	2.00
Mode	0.00

According to Table 3.2.5.1, a significant portion of respondents (18 out of 66) attended no classes solely to meet attendance requirements, but others attended up to 6 such subjects. The ogive from Figure 3.2.5.1 shows a gradual increase, with cumulative frequency reaching 66 at 6 subjects. As shown in Table 3.2.5.2, the mean of 2.23 and median of 2 are close, but the mode is 0, which reflects a split between students who attend class out of commitment and students who attend due to obligation. The right tail indicates some students have strong commitment based on attendance.

3.2.6 No. of Hours Spent per Week Studying Outside of Class

Question 12: How many hours per week do you spend studying outside of class? (exp: 6)

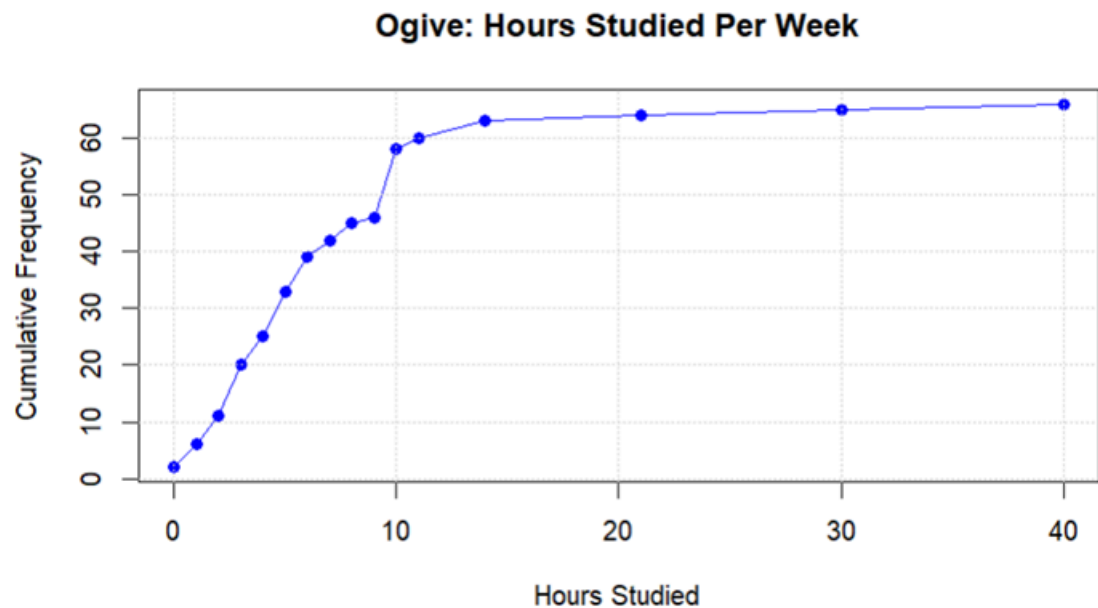


Figure 3.2.6.1 Ogive: Weekly Study Hours Outside of Class

Table 3.2.6.1: Frequency Distribution of Weekly Study Hours Outside of Class

Study Hours per Week Outside Class	Frequency	Cumulative frequency
0	2	2
1	4	6
2	5	11
3	9	20
4	5	25
5	8	33

6	6	39
7	3	42
8	3	45
9	1	46
10	12	58
11	2	60
14	3	63
21	1	64
30	1	65
40	1	66

Distribution of Weekly Study Hours

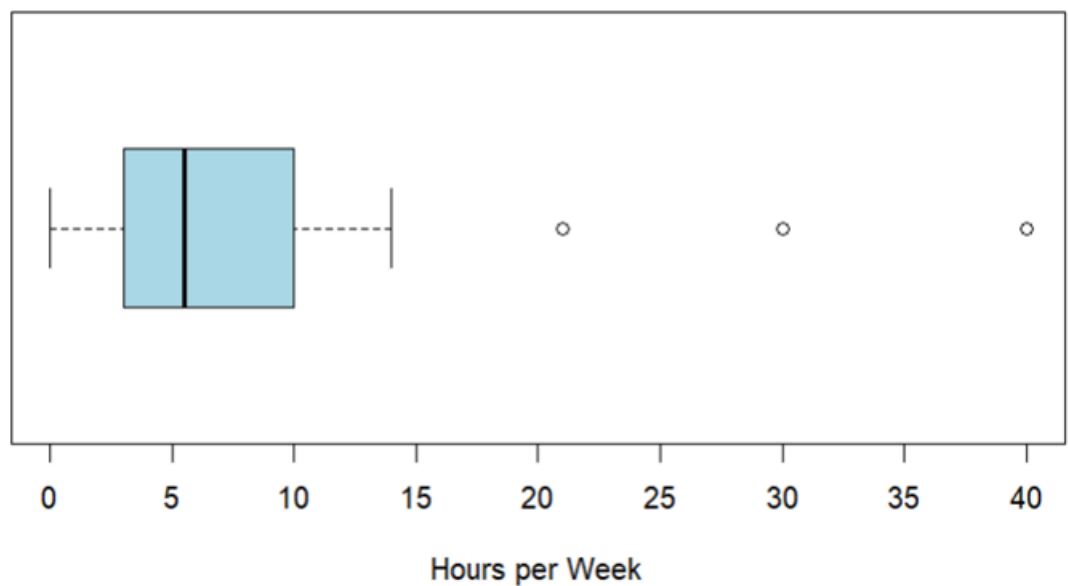


Figure 3.2.6.2 Boxplot: Weekly Study Hours Outside of Class

Table 3.2.6.2: Measure of Quartile for Boxplot of Weekly Study Hours Outside of Class

Quartile	Value (hours)
0.25	3

0.50	5
0.75	10

Respondents reported a wide range of study hours, from 0 to 40 hours per week. The boxplot in Figure 3.2.6.2 and the first quartile of 3, second quartile (median) of 5 and third quartile of 10 shown in Table 3.2.6.2 reveal a right-skewed distribution, with most students studying 3 until 10 hours (Interquartile Range). The mean is likely higher than the median due to outliers such as 21, 30 and 40 hours. The ogive in Figure 3.2.6.1 shows a steady climb, with 75% of students studying less than 10 hours. This suggests varied study habits, with a few extreme cases.

3.2.7 Last Semester CGPA

Question 14: What was your CGPA for your last semester?

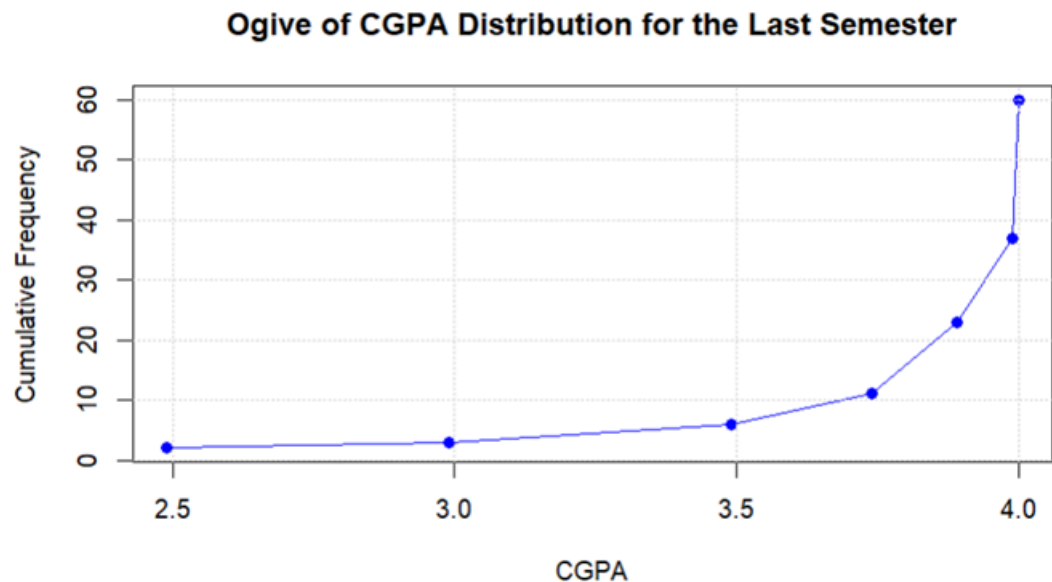


Figure 3.2.7.1 Ogive: CGPA Distribution for the Last Semester

Table 3.2.7.1: Frequency Distribution for the Last Semester CGPA

CGPA Range	Frequency	Cumulative Frequency
2.00 – 2.49	2	2
2.50 – 2.99	1	3
3.00 – 3.49	3	6
3.50 – 3.74	5	11

3.75 – 3.89	12	23
3.90 – 3.99	14	37
4.00	29	66

Table 3.2.7.2: Measure of Central Tendency of CGPA Distribution for the Last Semester

Measure of Central Tendency	CGPA
Mean	3.80
Median	4.00
Mode	3.95

According to Table 3.2.7.1 and Figure 3.2.7.1, the CGPA data with the sample size of 60 students from Universiti Teknologi Malaysia is left-skewed, with 23 respondents achieving a perfect 4.00 and mode being 3.95. The ogive in Figure 3.2.7.1 rises sharply in higher ranges which is from 3.75 to 4.00, reflecting strong academic performance. The mean of 3.80 and median of 4.00 differ due to the skewing with fewer students in lower ranges like from 2.00 to 2.49. This indicates that most respondents are academically excellent, with a few at the lower level.

3.2.8 Number of Classes Missed in the Previous Semester vs. CGPA Distribution for the Last Semester

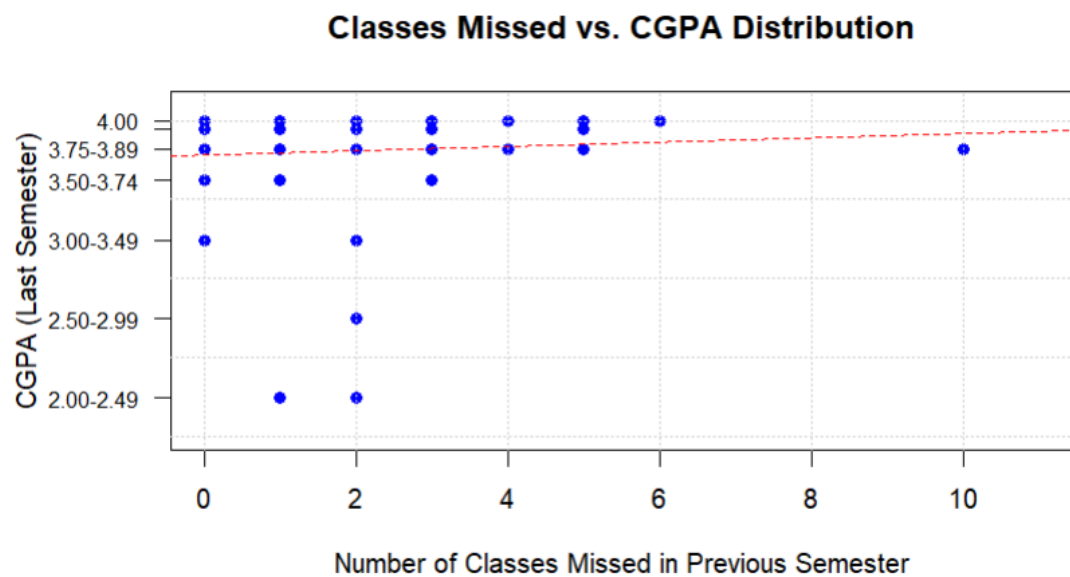


Figure 3.2.8.1 Scatter Plot: Number of Classes Missed in the Previous Semester vs. CGPA Distribution for the Last Semester

The scatter plot in Figure 3.2.8.1 demonstrates an inverse relationship between the number of classes missed and students' academic performance, as measured by their CGPA. The majority of high-achieving students, particularly those with CGPAs above 3.75, missed very few classes, with most attending nearly all sessions. This suggests that regular attendance is a significant contributor to academic achievement, perhaps by offering frequent exposure to course material and the opportunity to clarify. But the plot is also inconsistent in that some of the students had very good grades despite having missed several classes, which indicates that alternative learning approaches, such as intensive self-study or participation in study groups may substitute frequent absences. The lower end of the performance range was discovered to consist of students who had attended over five classes, and these latter have lower CGPAs, with the extreme instance of 10 absences corresponding to one of the poorest academic performances. This pattern highlights attendance as a key, but not absolutely is the determinant of achievement. The overall trend supports the conclusion that while exceptional students may succeed despite irregular attendance, the average learner benefits substantially from consistent class participation.

4.0 Conclusion

This analysis summarizes the descriptive statistics of 66 Faculty Computing student respondents, focusing on attendance behavior, study habits and academic perceptions. Overall, the findings suggest a student population that attends regularly, prefers solo study, is moderately confident in exams and perceives attendance as helpful. Through this study, a noticeable relationship was discovered between class attendance and exam performance among students from the Faculty of Computing. Students who attended classes more consistently tended to achieve better results in their examinations, supporting the original expectation. This finding suggests that regular class participation plays a vital role in reinforcing knowledge, clarifying difficult concepts, and maintaining academic discipline. Mathematically, the project provided an opportunity to apply concepts from probability and statistical data analysis to real-world data. By the same token, tools like Google Forms and Microsoft Excel were used to organize, visualize and interpret the information collected. Technologically, confidence was gained in handling survey data and using software to support statistical analysis. Beyond the numbers, the study deepened the understanding of current academic challenges faced by university students. Although technology offers flexibility in learning, the findings highlight that the traditional practice of attending classes remains a key factor in student success. This insight emphasizes the importance for universities to encourage attendance through engaging lectures and supportive learning environments. In conclusion, the study reaffirms the value of class attendance and serves as a reminder that success in university often stems from consistent, active participation. These findings are intended to inspire both students and educators to prioritize attendance as a critical component of academic achievement.

5.0 References

- Transkriptor. (2023, September 15). Does lecture attendance increase academic performance? *Transkriptor*. <https://transkriptor.com/does-lecture-attendance-increase-academic-performance/>
- Chen, J., & Lin, T. (2008). Class attendance and exam performance: a randomized experiment. *The Journal of Economic Education*, 39(3), 213–227. <https://doi.org/10.3200/jece.39.3.213-227>
- Kauffman, C. A., Derazin, M., Asmar, A., & Kibble, J. D. (2018). Relationship between classroom attendance and examination performance in a second-year medical pathophysiology class. *AJP Advances in Physiology Education*, 42(4), 593–598. <https://doi.org/10.1152/advan.00123.2018>

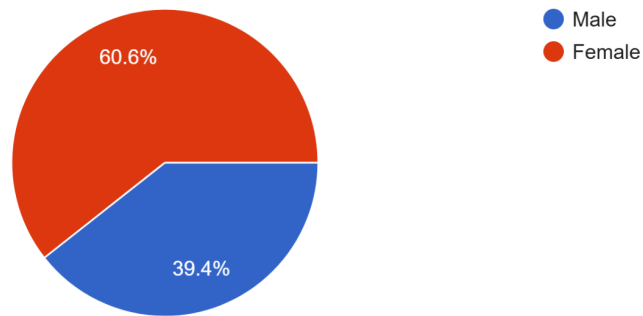
6.0 Appendix

Google Form:

<https://forms.gle/XfNzSXwUcbyNEArs7>

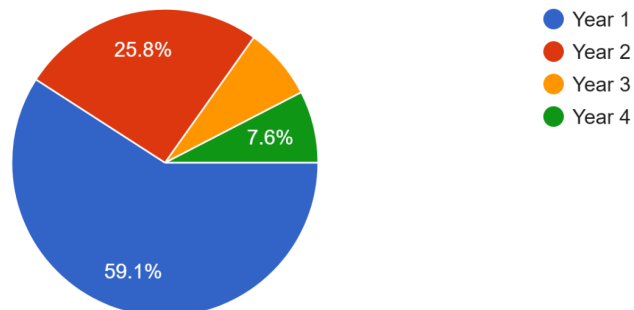
Gender

66 responses



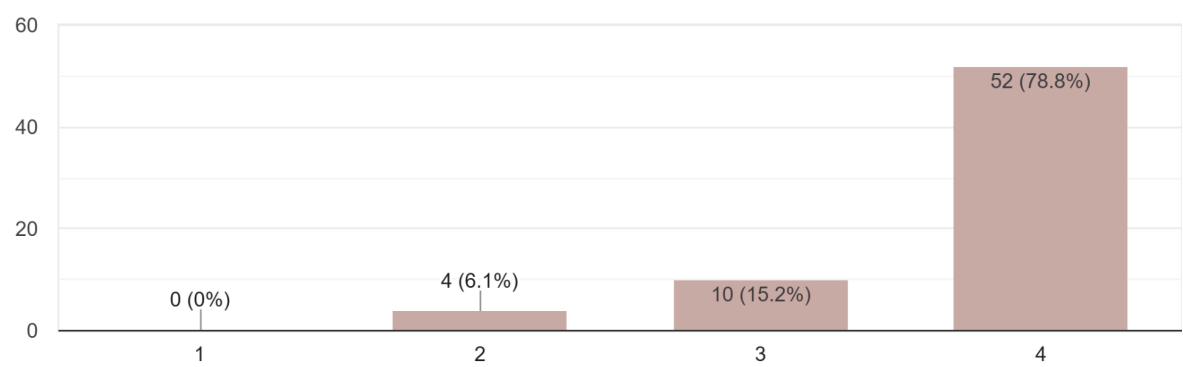
Year of Study

66 responses



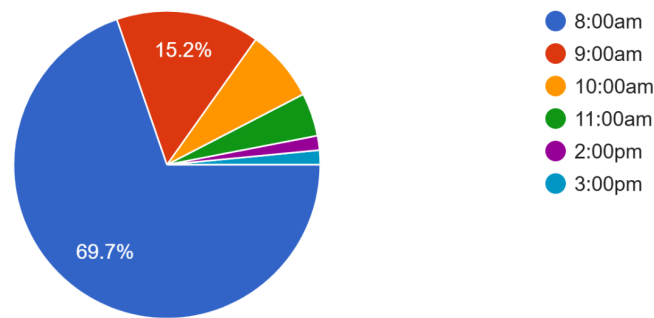
How often do you attend class?

66 responses



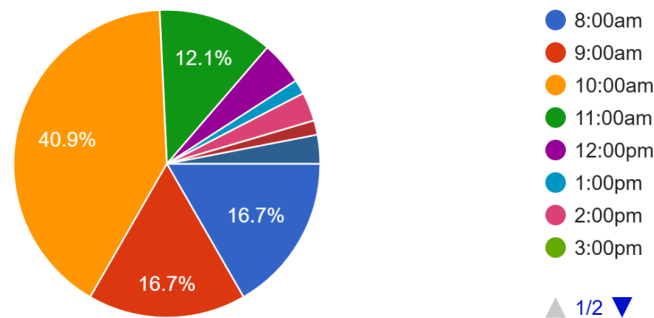
At what time do you usually attend your first class of the day?

66 responses



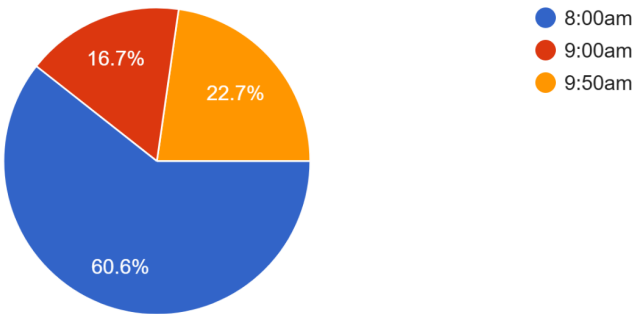
At what time of day do you feel most focused during class?

66 responses



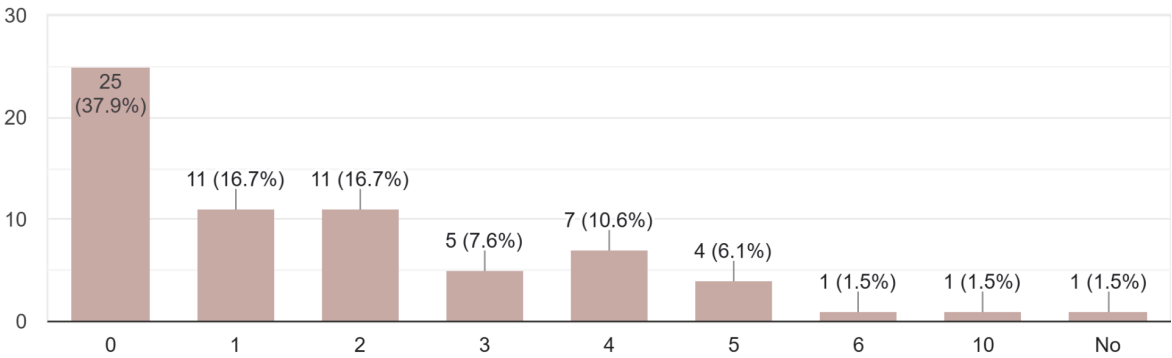
Assume the lecture is 8am to 9:50am, what is the time that you usually scan the attendance?

66 responses

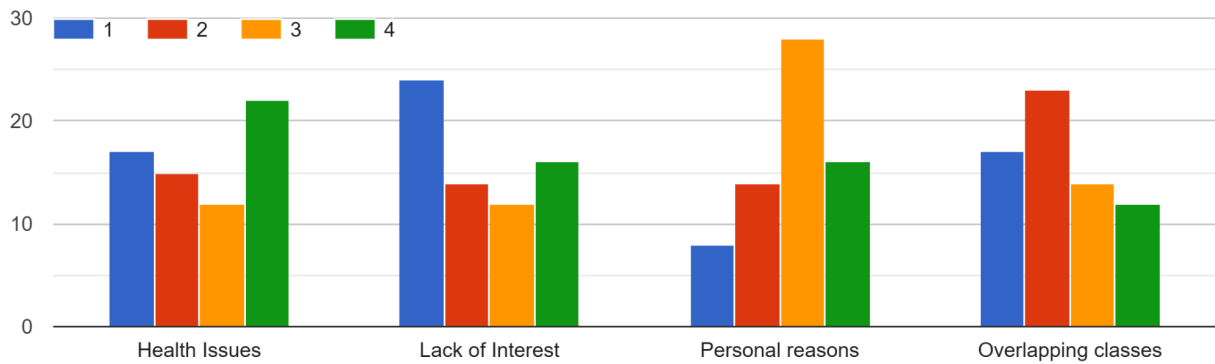


How many classes did you miss in last semester? (Exp: 5)

66 responses

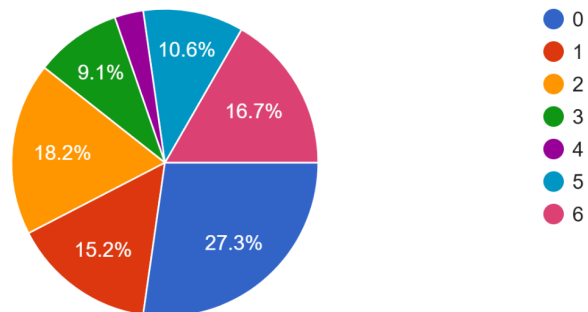


Rank the following reasons for missing class based on frequency. (Select one option only for each row and column) Exp: Health Issues - 1 Lack of Int...st - 2 Personal Reasons - 3 Overlapping Classes - 4



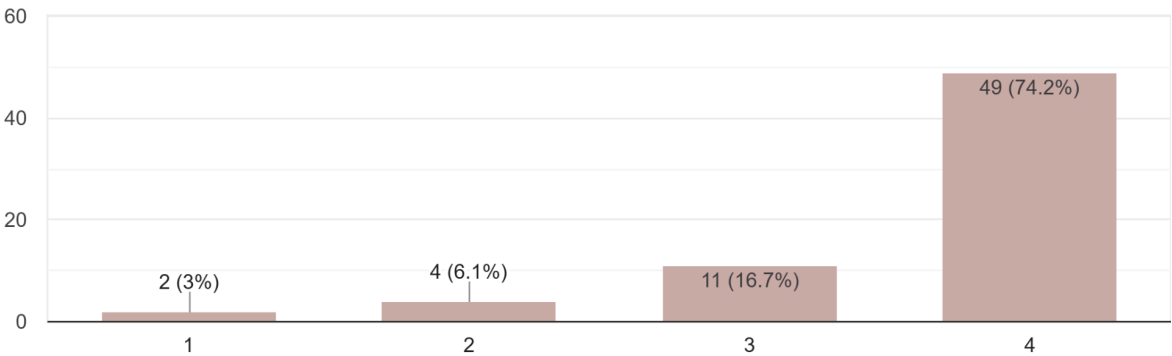
How many subjects did you attend just to meet attendance minimums (not for content)?

66 responses



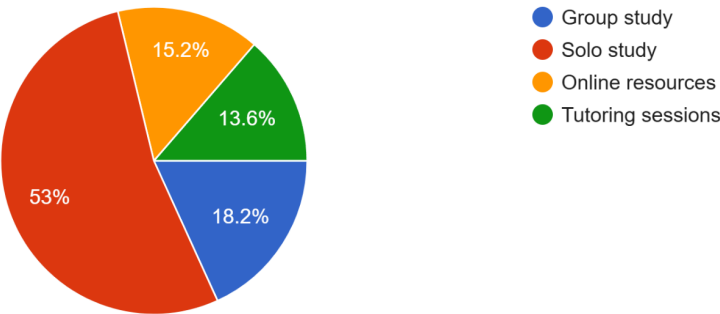
How likely would you attend more classes if attendance was part of your grade?

66 responses



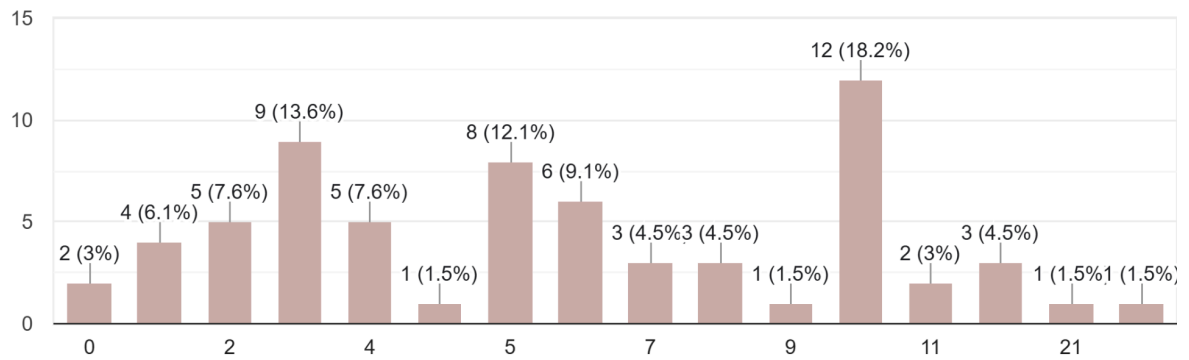
What is your preferred study method?

66 responses



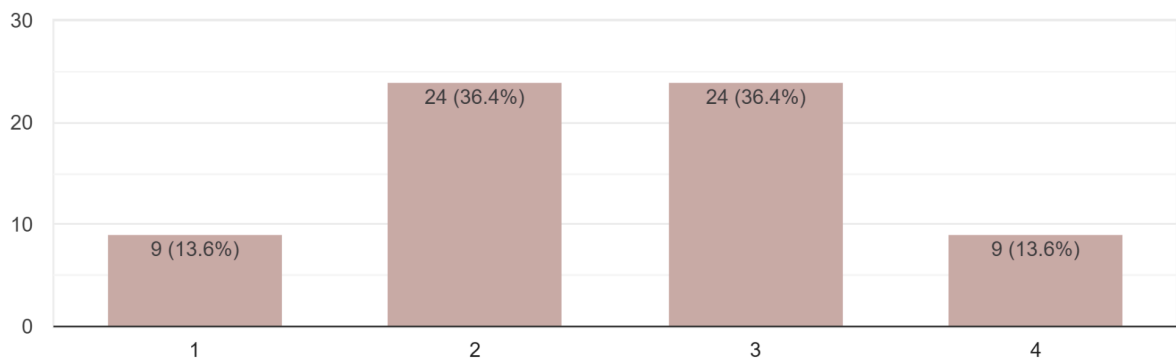
How many hours per week do you spend studying outside of class? (exp: 6)

66 responses



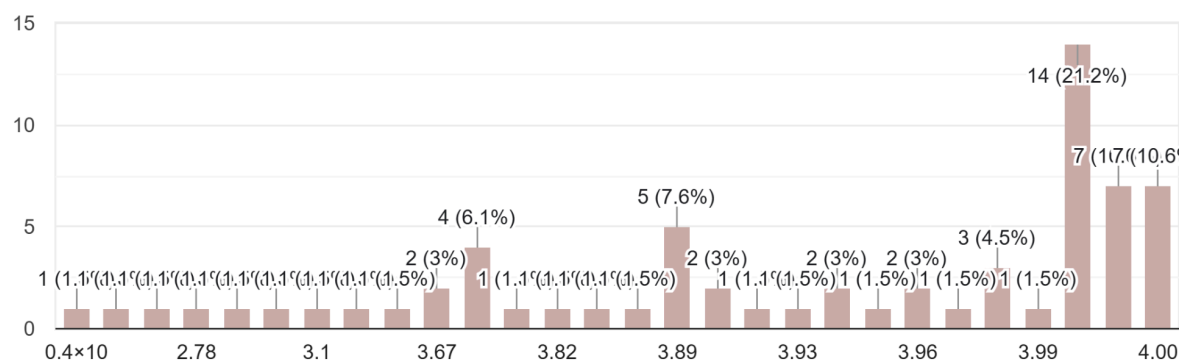
Did you fully understand the lecturer's teaching during class sessions?

66 responses



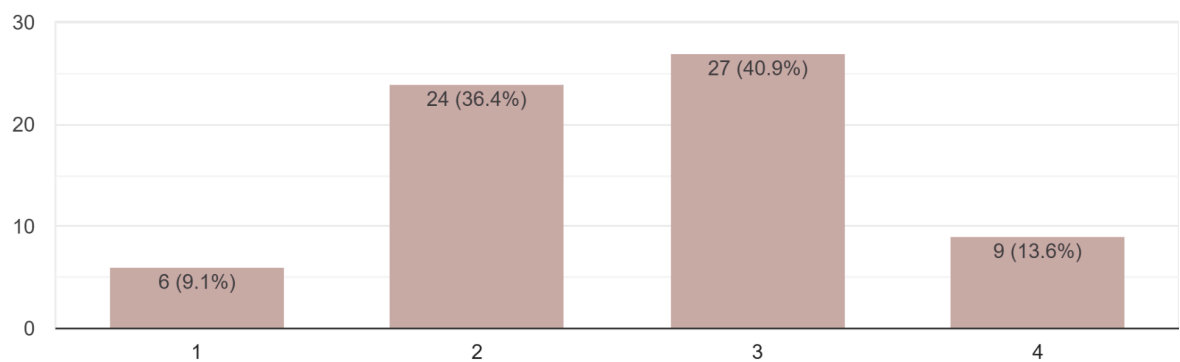
What was your CGPA for your last semester?

66 responses



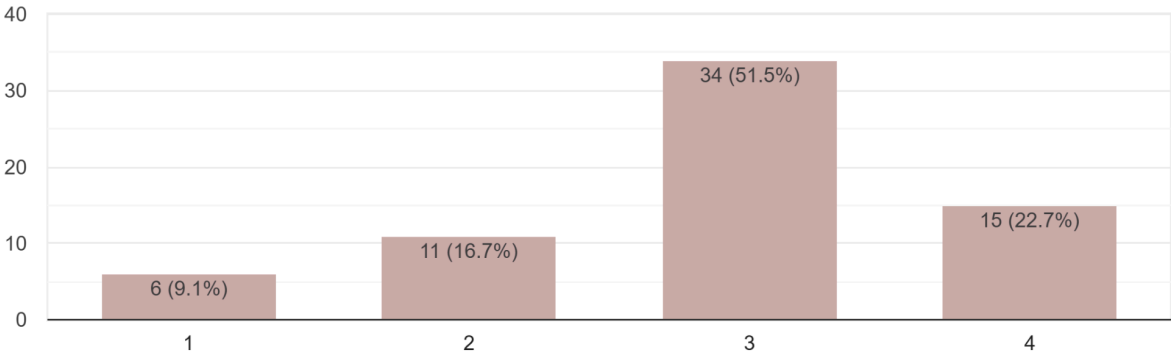
How confident are you about your last exam?

66 responses



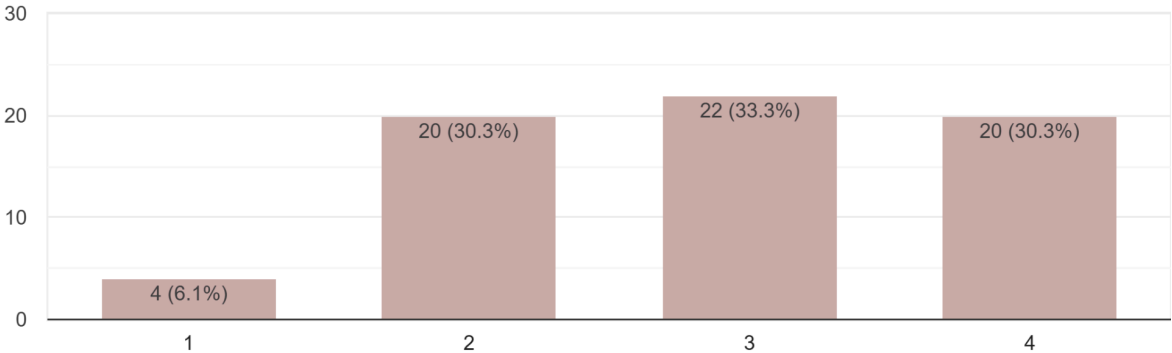
How satisfied are you with your academic performance?

66 responses



How helpful do you find class attendance for exam preparation?

66 responses



Response Sheet:

<https://docs.google.com/spreadsheets/d/1msswzbFRJO2xHNMrvjdrTcD7B81p5kP6xQwRjRDV2bo/edit?usp=sharing>

Form, Request												
1	Timestamp	Gender	Year of Study	How often do you attend class?	At what time do you usually attend your first	At what time of day do you feel most focused	Assume the lecture is 8am to 9:00am, what is	How many classes did you miss in last term?	Rank the following reasons for missing class	Rank the following reasons for missing class	Rank the following reasons for missing class	Rank the following reasons for missing class
									Top Health Issues: 1 - Lack of Interest: 2 - Personal Reasons: 3 - Overlapping Classes: 4 - Health Issues	Top Health Issues: 1 - Lack of Interest: 2 - Personal Reasons: 3 - Overlapping Classes: 4 - Lack of Interest	Top Health Issues: 1 - Lack of Interest: 2 - Personal Reasons: 3 - Overlapping Classes: 4 - Personal Reasons	Top Health Issues: 1 - Lack of Interest: 2 - Personal Reasons: 3 - Overlapping Classes: 4 - Overlapping
2	4/25/2023 12:03:31	Female	Year 1	4	8:00am	10:00am	8:00am	1	1	2	3	
3	4/25/2023 13:48:18	Male	Year 1	4	8:00am	9:00am	9:00am	2	1	3	2	
4	4/25/2023 13:49:33	Female	Year 1	3	10:00am	10:00am	9:00am	2	2	4	3	
5	4/25/2023 13:52:14	Female	Year 1	4	8:00am	10:00am	9:00am	2	4	3	2	
6	4/25/2023 13:57:05	Female	Year 1	4	8:00am	10:00am	8:00am	0	4	1	3	
7	4/25/2023 14:00:50	Female	Year 1	4	8:00am	9:00am	8:00am	0	3	2	4	
8	4/25/2023 14:34:52	Female	Year 1	4	8:00am	10:00am	9:00am	3	4	2	3	
9	4/25/2023 14:42:06	Male	Year 1	4	8:00am	8:00am	8:00am	1	4	1	2	
10	4/25/2023 14:43:54	Female	Year 1	4	8:00am	10:00am	9:00am	1	1	4	3	
11	4/25/2023 14:54:36	Female	Year 1	4	8:00am	10:00am	9:00am	0	1	4	2	
12	4/25/2023 15:06:18	Female	Year 1	4	10:00am	10:00am	9:00am	0	1	2	4	
13	4/25/2023 16:12:12	Female	Year 1	4	8:00am	11:00am	8:00am	0	4	1	3	
14	4/25/2023 16:36:26	Male	Year 1	4	8:00am	8:00am	8:00am	0	4	1	2	
15	4/25/2023 16:39:56	Male	Year 1	4	8:00am	11:00am	8:00am	2	3	1	4	
16	4/25/2023 16:46:48	Female	Year 1	4	8:00am	10:00am	8:00am	1	1	4	3	
17	4/25/2023 16:58:30	Female	Year 1	3	9:00am	10:00am	8:00am	5	4	2	3	
18	4/25/2023 16:59:38	Female	Year 1	3	9:00am	10:00am	8:00am	3	3	4	3	
19	4/25/2023 16:59:52	Female	Year 1	3	9:00am	9:00am	8:00am	10	1	3	4	
20	4/25/2023 20:07:34	Female	Year 1	4	8:00am	8:00am	8:00am	0	4	2	3	
21	4/25/2023 20:11:13	Female	Year 1	4	9:00am	8:00am	8:00am	4	4	1	3	
22	4/25/2023 20:11:58	Male	Year 1	3	8:00am	10:00am	8:00am	0	4	3	2	
23	4/25/2023 20:14:37	Female	Year 1	3	8:00am	9:00am	8:00am	2	4	1	2	
24	4/25/2023 21:37:11	Female	Year 1	4	8:00am	9:00am	8:00am	0	4	1	2	
25	4/25/2023 22:00:21	Female	Year 1	4	8:00am	10:00am	8:00am	0	4	1	3	
26	4/26/2023 4:27:58	Female	Year 1	4	8:00am	10:00am	8:00am	0	4	1	3	
27	4/26/2023 10:20:51	Female	Year 1	4	8:00am	8:00am	8:00am	0	3	4	2	
28	4/26/2023 14:44:47	Male	Year 1	4	8:00am	10:00am	9:00am	0	4	1	2	
29	4/26/2023 15:24:58	Female	Year 1	4	8:00am	10:00am	8:00am	1	3	1	4	
30	4/26/2023 15:37:47	Female	Year 1	4	9:00am	11:00am	9:00am	0	4	1	3	
31	4/26/2023 15:57:17	Female	Year 1	4	8:00am	8:00am	8:00am	0	3	4	2	
32	4/26/2023 16:39:54	Female	Year 1	4	9:00am	9:00am	8:00am	1	4	1	3	
33	4/26/2023 16:39:54	Female	Year 1	4	9:00am	9:00am	8:00am	0	3	4	2	
34	4/26/2023 17:30:30	Male	Year 1	4	8:00am	12:00pm	8:00am	3	1	3	4	
35	4/26/2023 18:19:33	Female	Year 1	4	10:00am	10:00am	8:00am	0	2	4	1	
34	4/26/2023 17:22:33	Male	Year 1	4	8:00am	12:00pm	8:00am	3	1	3	4	
35	4/26/2023 18:19:33	Female	Year 1	4	10:00am	10:00am	8:00am	0	2	4	1	
36	4/26/2023 20:41:23	Male	Year 1	4	8:00am	11:00am	8:00am	2	3	2	4	
37	4/26/2023 23:50:41	Male	Year 2	4	8:00am	8:00am	8:00am	0	3	4	2	
38	4/26/2023 23:59:40	Male	Year 2	4	8:00am	8:00am	9:00am	2	3	4	3	
39	4/27/2023 0:05:18	Female	Year 2	4	8:00am	2:00pm	8:00am	1	3	1	2	
40	4/27/2023 0:05:32	Female	Year 2	4	8:00am	2:00pm	9:00am	1	3	2	4	
41	4/27/2023 0:10:36	Male	Year 2	4	8:00am	10:00am	9:00am	0	1	4	3	
42	4/27/2023 0:16:18	Male	Year 2	4	8:00am	11:00am	8:00am	0	2	4	1	
43	4/27/2023 0:17:31	Female	Year 2	4	8:00am	9:00am	9:00am	0	4	1	3	
44	4/27/2023 0:37:08	Male	Year 2	4	8:00am	9:00am	9:00am	4	1	2	4	
45	4/27/2023 1:00:27	Female	Year 2	4	8:00am	8:00am	9:00am	2	2	3	4	
46	4/27/2023 1:46:36	Male	Year 1	3	8:00am	5:00pm	8:00am	4	3	4	1	
47	4/27/2023 6:03:37	Male	Year 2	4	8:00am	9:00am	9:00am	4	2	3	4	
48	4/27/2023 6:00:31	Female	Year 2	4	8:00am	8:00am	8:00am	1	2	1	4	
49	4/27/2023 9:45:48	Male	Year 2	4	8:00am	11:00am	9:00am	2	3	1	4	
50	4/27/2023 11:39:26	Female	Year 2	4	8:00am	10:00am	8:00am	0	4	3	2	
51	4/28/2023 5:49:58	Male	Year 4	4	10:00am	10:00am	9:00am	4	1	3	2	
52	4/28/2023 8:02:21	Male	Year 3	2	11:00am	1:00pm	9:00am	4	2	1	3	
53	4/28/2023 8:39:58	Female	Year 4	2	9:00pm	5:00pm	8:00am	3	1	2	3	
54	4/28/2023 4:03:41	Male	Year 3	2	9:00pm	4:00pm	9:00am	4	4	3	1	
55	4/28/2023 4:05:12	Male	Year 3	2	11:00am	9:00am	9:00am	1	1	3	3	
56	4/28/2023 4:06:29	Male	Year 4	3	11:00am	12:00pm	9:00am	0	3	1	4	
57	4/28/2023 22:08:28	Female	Year 3	4	8:00am	10:00am	8:00am	0	2	4	1	
58	4/29/2023 22:09:37	Male	Year 4	4	8:00am	8:00am	8:00am	2	2	3	1	
59	4/30/2023 2:29:46	Female	Year 1	4	8:00am	10:00am	8:00am	0	2	4	2	
60	4/30/2023 4:43:37	Male	Year 2	3	10:00am	10:00am	9:00am	2	1	4	3	
61	4/30/2023 2:58:52	Male	Year 4	4	8:00am	10:00am	8:00am	3	4	1	2	
62	4/30/2023 6:00:10	Female	Year 2	4	8:00am	8:00am	8:00am	0	1	3	2	
63	4/30/2023 8:17:04	Female	Year 3	4	8:00am	10:00am	9:00am	0	3	2	1	
64	4/30/2023 10:14:03	Male	Year 1	3	9:00am	11:00am	8:00am	1	1	2	4	
65	4/30/2023 10:31:37	Male	Year 2	4	8:00am	10:00am	8:00am	1	4	1	3	
66	4/30/2023 18:56:24	Female	Year 2	4	8:00am	11:00am	9:00am	2	4	1	3	
67	4/30/2023 21:20:57	Female	Year 1	4	8:00am	10:00am	9:00am	0	3	1	4	