


Practicum Case	
COMP6140 COMP6140001 COMP6140049 Data Mining	
Computer Science	O191-COMP6140-NP01-02
<i>Valid on Even Semester Year 2019/2020</i>	Revision 00

Learning Outcome

- LO1 – explain concept of data and data preprocessing

Topic

- Session 02 – Data Visualization Using R

Sub Topics

- Data Visualization

Soal

Case

Bluejack University

A currently running poll is being held by Bluejack University to predict the current **student satisfaction** of the provided education. They are given 10 questions, where **questions 1 – 5** are **Likert Scale Questions** (questions which answers are chosen from a range), and **questions 6 – 10** are **Multiple Choice Questions** of **TRUE** and **FALSE**.

To support the data analysis, you are asked to visualize the poll data of the students into various charts from the documents provided. The documents given consist of the **participants' data** (**Participant.csv**), the **questionnaire result** (**Result.csv**), and **list of the questions** (**Question.csv**).

Participant Number	Age	Gender
1	24	Male
2	26	Male
3	22	Male
4	19	Male
5	32	Female
6	35	Male
7	21	Female
...

Figure 1. Participant Data

Participant Number	Date	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8	Question 9	Question 10
1	7/14/2018	3	5	3	1	2	FALSE	TRUE	TRUE	TRUE	FALSE
2	7/14/2018	2	5	4	2	4	FALSE	FALSE	TRUE	TRUE	TRUE
3	7/14/2018	4	1	4	4	1	TRUE	TRUE	TRUE	FALSE	FALSE
4	7/14/2018		4	4	1	3	TRUE	TRUE	TRUE	TRUE	TRUE
5	7/14/2018	4	3	5	3	4	FALSE	TRUE	TRUE	TRUE	FALSE
6	7/14/2018		3	5	3	4	TRUE	TRUE	TRUE	TRUE	TRUE
7	7/14/2018	4	3	2	4	2	TRUE	TRUE	TRUE	TRUE	FALSE

Figure 2. Result Data

Question Number	Question
1	The education materials provided by Bluejack University is up to date and promises a great potential for my future.
2	The lecturers of Bluejack University are masters of the corresponding courses taught to me.
3	Bluejack University provides advanced facilities which contributes to my learning process.
4	The staffs of Bluejack University are polite, respectful, and welcoming.
5	I am satisfied with the overall education quality Bluejack University provides.
6	The sanitation facility of Bluejack University is well maintained and hygienic.
7	The environment of Bluejack University is education-friendly and healthy.
8	I am well informed of lecture schedules and other important informations.
9	Bluejack University's website, BluejackMaya is well-developed and well-maintained.
10	BluejackMaya is user friendly, and is very easy to operate for non-technological individuals.

Figure 3. Question Data

However, a misinterpretation of the questionnaire filling guidelines has caused some of the answers for the first question to be **invalid** and **omitted** from the document. Do the following **visualizations**, considering that the data included must only be **valid data**.

1. Visualize a **pie chart** with its **legend**, illustrating the result of the **second question**.

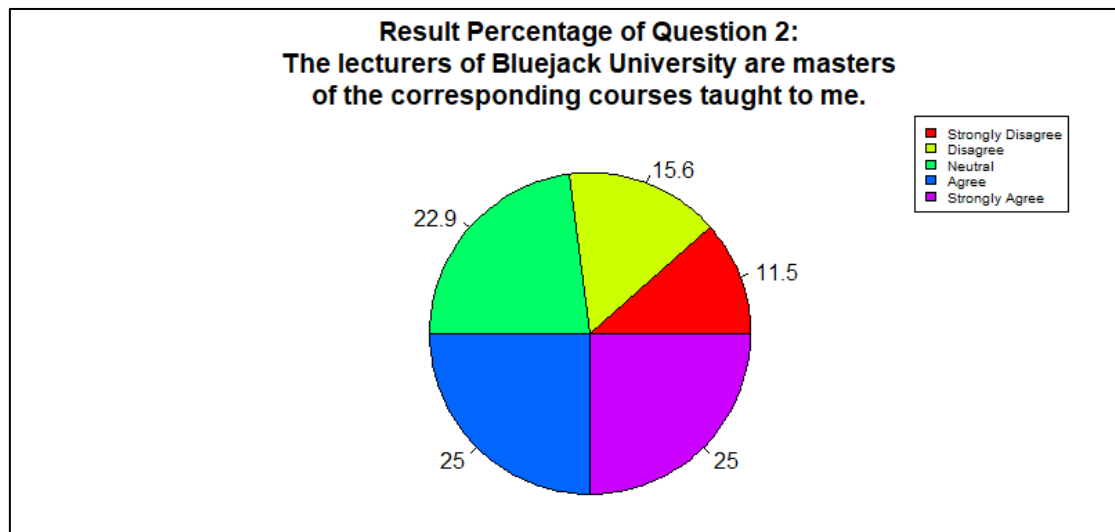


Figure 4. Answer 1

2. Visualize a **pie chart** with its **legend**, illustrating the result of the **sixth question** for **female participants**.

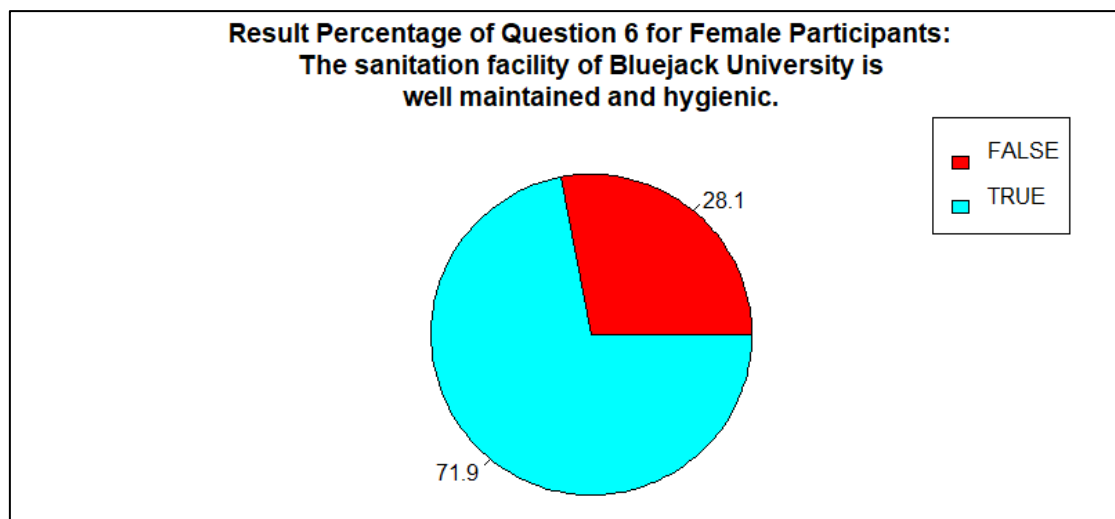


Figure 5. Answer 2

3. Visualize a **group bar chart** with its **legend**, illustrating the result of the **first question** and the **gender** of the participant.

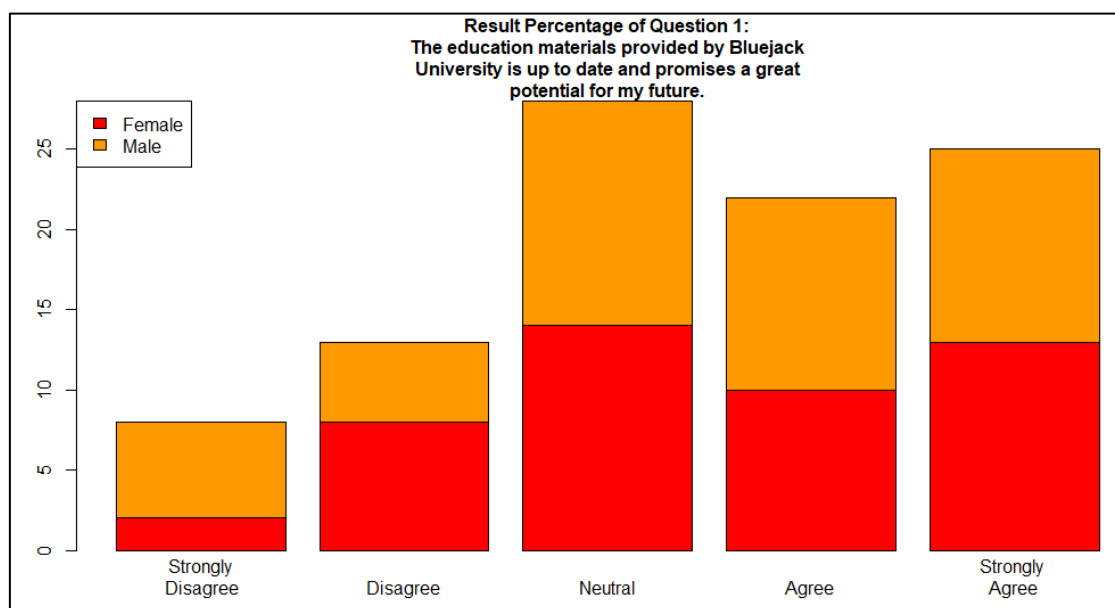


Figure 6. Answer 3

4. Visualize a **boxplot**, illustrating the relationship between the result of the **first question** and the **gender** of the participant.

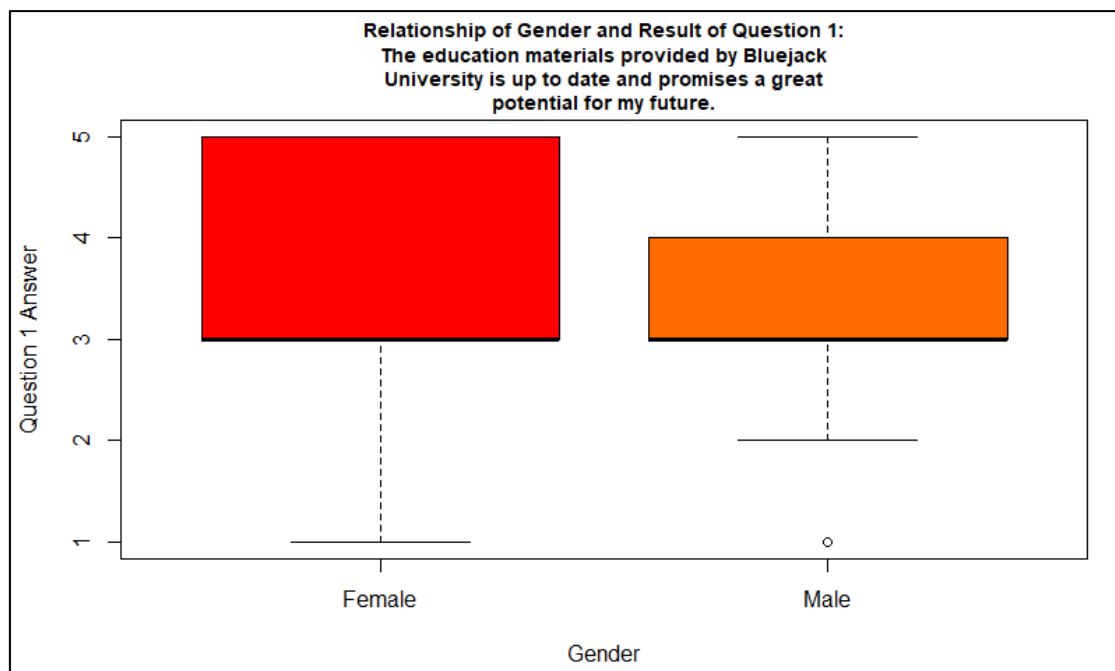


Figure 7. Answer 4

5. Visualize a **histogram**, illustrating the result of the **fourth question**.

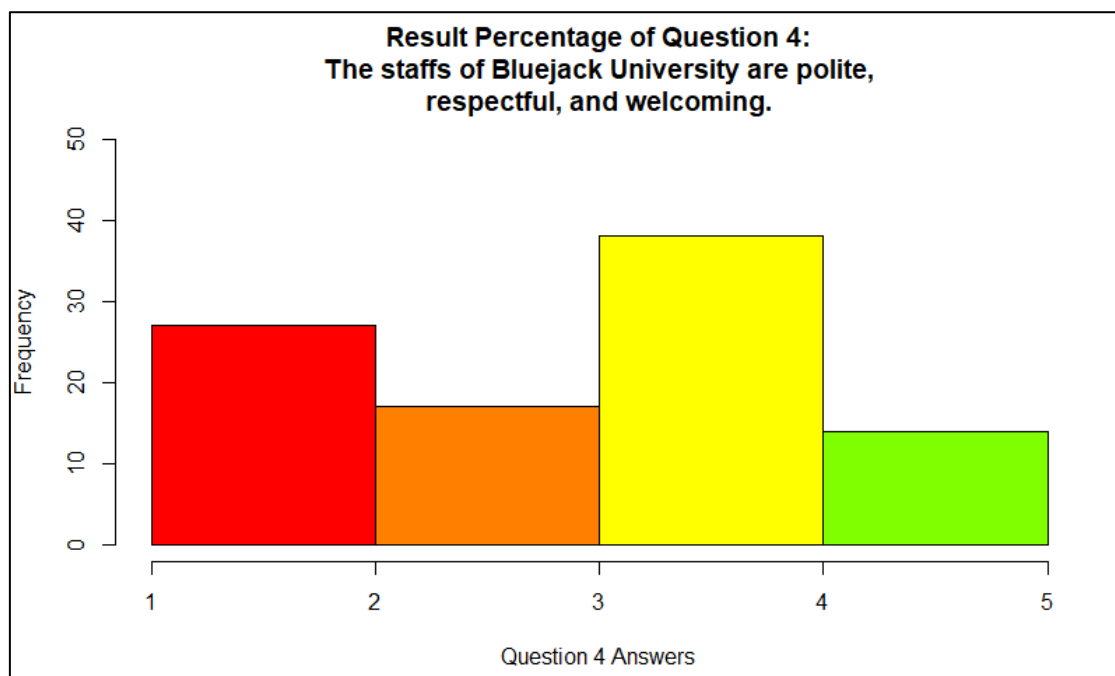


Figure 8. Answer 5

6. Visualize a **stacked bar chart**, illustrating the **results of question 1 to 5**.

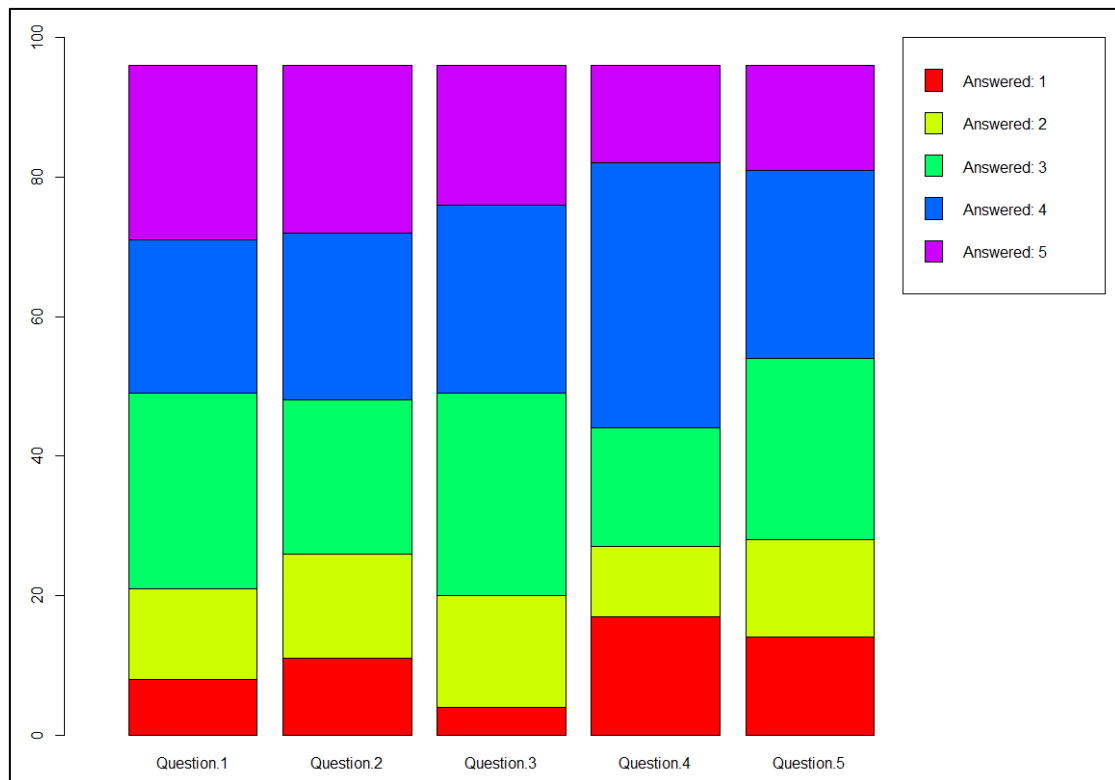


Figure 9. Answer 6

7. Visualize a **dot chart** and a **line chart**, illustrating the **amount of survey participants each day**.

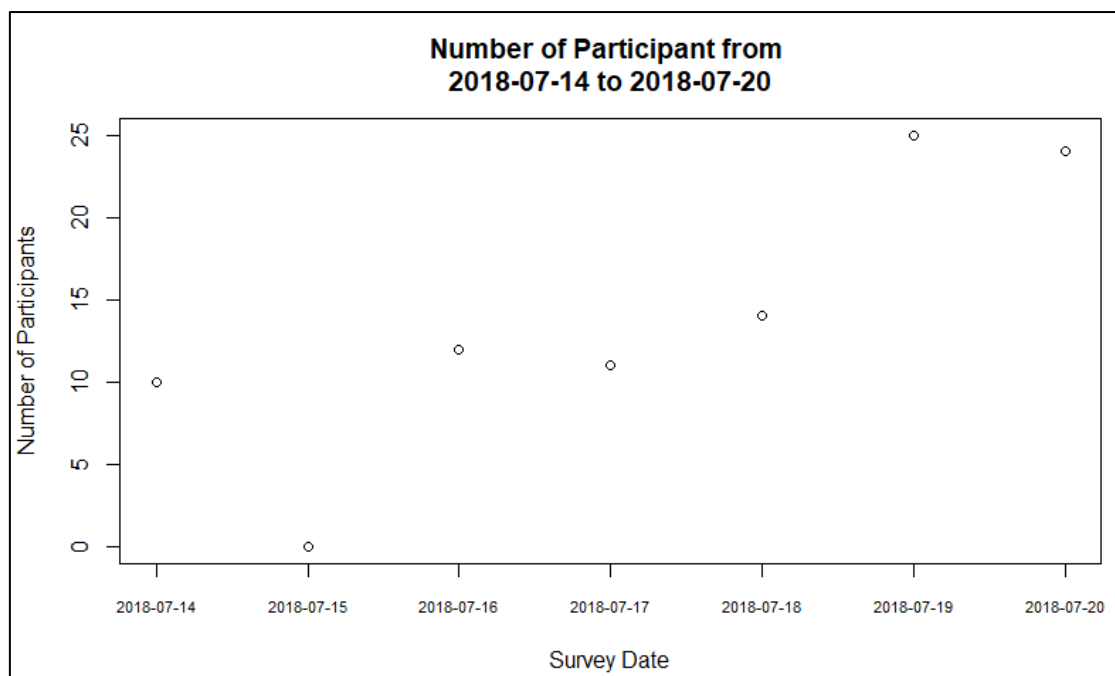


Figure 10. Answer 7 (part 1)

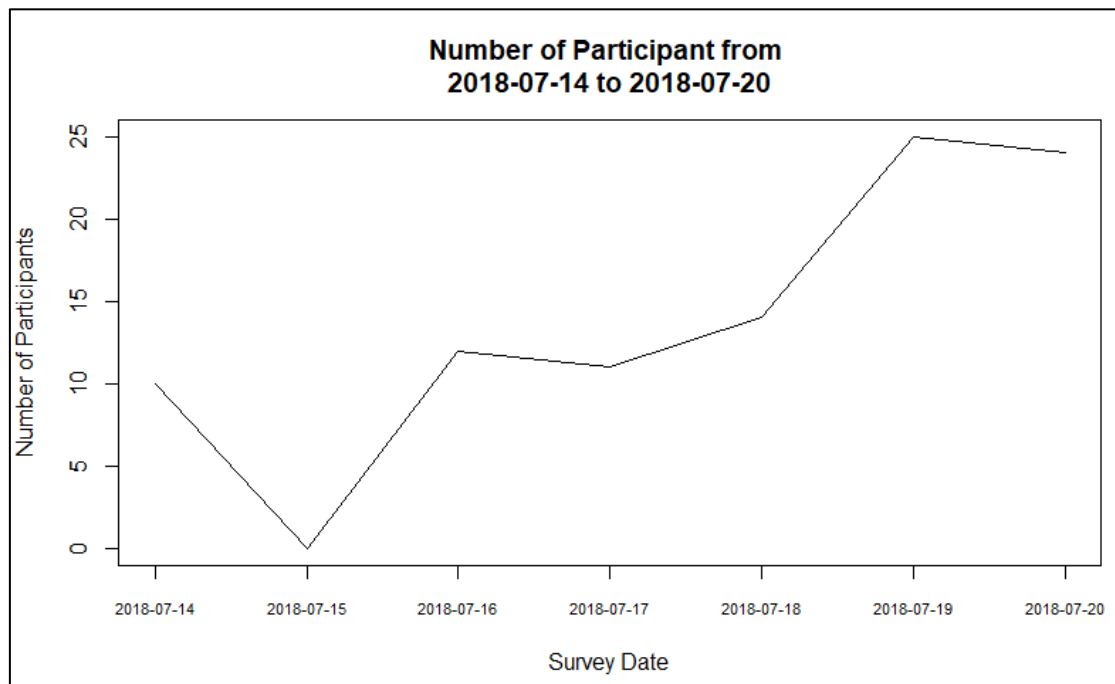


Figure 11. Answer 7 (part 2)

8. Visualize a **dotted line chart**, illustrating the **amount of survey participants each day**, and **save the visualization as result.png**.

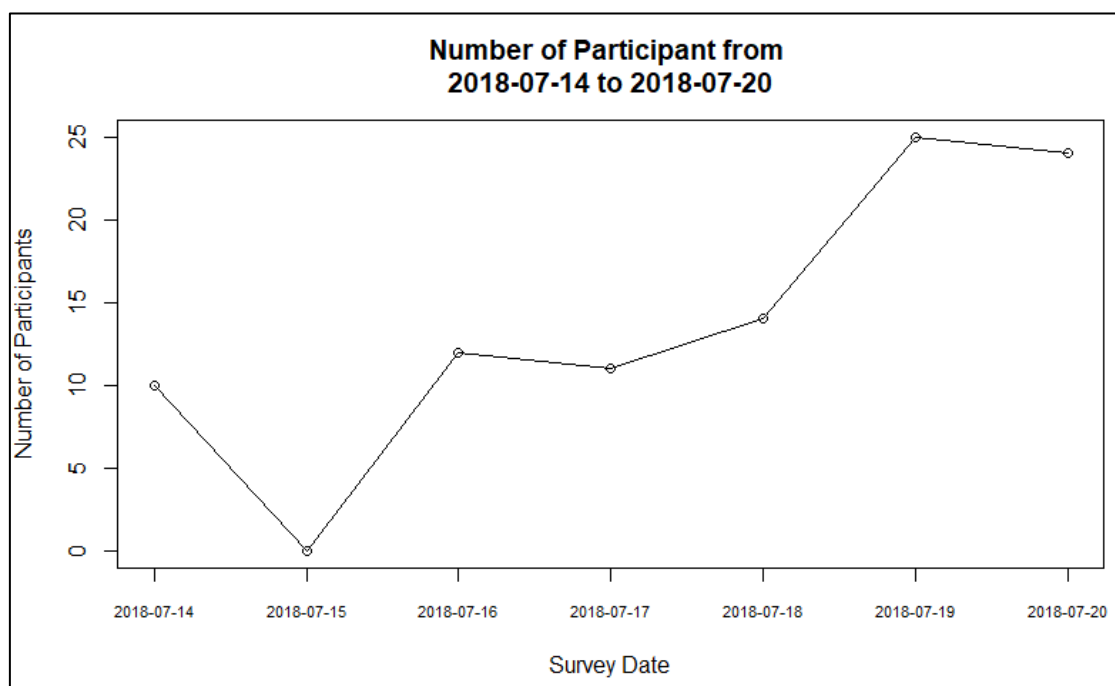


Figure 12. Answer 8