Assignment 1
ETW1001

This assignment is designed to test Unit Objective 1 and 3.
Due date: 10am Monday Week 7 (11 April 2022) or as specified by your lecturer

This assignment is marked out of 50 and is worth 15% of the assessment in this unit. You must use Excel to generate the relevant output.

There are **two [2] set** data for assignment one which is available is in Moodle under Assignment 1 with the file name of: Corruption VS HDI.xls. and A1 S2 2022 xls.

This Assignment has three [3] Parts. Part A will test on the data visualization and Part B on Descriptive Statistics and Part C on Estimation.

The required results can be presented in the worksheet labelled Results. The appropriate places for graphs, comments and tables are already set out in this worksheet. You are required to hand in a soft copy of the Results worksheet in word document using New Times Roman with font size of 12. It is recommended that you first create the graphs and tables in the data worksheets, and then copy them to the appropriate places in the Results worksheet. In fact, on some computers it is essential that you work in this way, as some networked computers have difficulty dealing with data analysis tools when data is selected from a different worksheet.

Do not provide data set in your solution report. Be sure to include your name and student ID in your file name.

Part A: Data Visualization

The data for this Part A is in Moodle under Assignment 1 with the file name of: Corruption VS HDI.xls.

Question

Corruption is a common phenomenon in most of the countries. Corruption acts as an abuse of entrusted power for private gain. Classic examples include bribery, clientelism, embezzlement, lobbying and patronage. The World Bank has established Corruption Perception Index scores. The scale is 0 to 100, where 0 means that a country is perceived as highly corrupt and 100 means that a country is perceived as very clean.

For instance, the five countries with the highest scores (and thus perceived as most 'clean') are Denmark, New Zealand, Finland, Singapore and Sweden. At the other extreme, the countries with the lowest scores (and highest perceived corruption) are Somalia, Syria, South Sudan, Yemen, and North Korea.

On the other hand, the Human Development Index (HDI) is an index that measures key dimensions of human development. The three key dimensions are:

i. **A long and healthy life** – measured by *life expectancy*.
ii. **Access to education** – measured by *expected years of schooling* of children at school-entry age and *mean years of schooling* of the adult population.
iii. **A decent standard of living** – measured by *Gross National Income per capita* adjusted for the price level of the country.

This entry provides a basic overview of the Human Development Index over the last decades using the standard HDI. The scale is 0 to 1, where 0 means that a country is perceived as very low human development and 1 means a very high human development.

The data set for Corruption Perception Index scores and Human Development Index is available in Corruption VS HDI xls.

i) Construct a diagram for the Corruption Perception Index scores for the year 2015 for Denmark, New Zealand, Finland, Singapore, Sweden, Somalia, Syria, South Sudan, Yemen, and North Korea.

[3 marks]

ii) Write a brief report on Corruption Perception Index scores for the year 2015 from part (i). **[4 marks]**

iii) Construct a chart to compare the Corruption Perception Index scores for the year 2012 and 2015 for Denmark, New Zealand, Finland, Singapore, Sweden, Somalia, Syria, South Sudan, Yemen, and North Korea. Interpret the chart. **[4 marks]**

iv) Construct a chart to compare the Human Development Index for the year 2010 and 2015 for Denmark, New Zealand, Finland, Singapore, Sweden, Somalia, Syria, South Sudan, Yemen, and North Korea. Interpret the chart **[4 marks]**

Part B: Descriptive statistics

The data for this Part B is in Moodle under Assignment 1 with the file name of: A1 S1 2022.xls.

The file has two worksheets: Data and Results.

While the presentation of the assignment is important, and some marks are designated for presentation, elaborate features are not required. Your work must be easy to read. The quality of the presentation should be worthy of submission to your employer or project manager.

Question

A group of researchers are interested in studying the relationship of quality rating for customers who have visited fast food restaurant and the meal price. To gain more insight into this question, 300 customers who have patronaged the restaurant were interviewed and some of the results obtained are compiled in the data file **A1 S1 2022.xls**. The columns provide the following information:

Column A: Restaurant

Column B: Quality Rating (Good, Very Good and Excellent)

Column C: Meal Price in RM

All tables, graphs and comments for this question should be places in the designated spaces in the worksheet Results.

(a) Complete Table (a). Use Countif or another method to find the frequencies for the quality of rating (Good, Very Good and Excellent) in the sample and hence complete Table (a). **[2 marks]**

(b) Display the data in Table (a) by using an appropriate chart and place it in the textbox labelled Graph (b). **[2 marks]**

(c) Complete Table (c) for the summary statistics for the variables Good, Very Good and Excellent meal price. **[4 marks]**

(d) Complete [Table (d)] the grouped frequency Table for the meal price for Good, Very Good and Excellent. Find the frequency and hence calculate the percentage frequency and cumulative percentage frequency for Good, Very Good and Excellent. **[3 marks]**

(e) Is the level of quality rating different for the three groups of restaurants? Use figures from Table (c) to help you explain any differences and the unusual figure(s). Report your answer in Textbox (e). **[2 marks]**

(f) Construct percentage frequency polygons for the quality ratings in one chart and insert it into the textbox labelled Graph (f). **[3 marks]**

(g) Discuss the shape of the percentage frequency polygons for the quality ratings. Answer in Textbox (g). **[3 marks]**

(h) List the four measures of variability given in the Table (C). Which one of the quality ratings shows more variability? Answer in Textbox (h). **[6 marks]**

Part C

The data for this Part B is in Moodle under Assignment 1 with the file name of: A1 S1 2022.xls.

Based on Part B scenario, answer the following questions:

i) Construct a diagram that shows the relationship between meal price [independent variable] and wait time [dependent variable] for the three categories. Interpret the diagram and is there any unusual phenomena and discuss. **[4 marks]**

ii) Using the appropriate method, inference the average meal price for the three categories and interpret your answer. **[3 marks]**

Presentation: 3 marks

(If your presentation is easy to read, you will get these 3 marks. Ease of reading is assisted by appropriate font size, borders, colour choice and labelling in graphs, and some care in spelling, grammar and punctuation.)

End of Questions

[Total 50 marks]