**Group Mini Project and IT Quiz – Spring 2021**

**Instructions:**

* Select your own group.
* **The maximum number of students in a group is 6** (you can work alone if you want).
* Each group should submit **one electronic report** (word or pdf document) on Blackboard on **Tuesday, April 20 (before 23:59pm)**. This means that one person of the group should submit the document on Blackboard. Email submissions will not be accepted and **late submissions will lose 3 marks**.
* Please make sure you write the names of the group members at the top of the report.
* The submitted report should contain the answers with their corresponding question number and include all the answer elements such as graphics (copied from Excel), numbers and explanations. Please round your reported numbers to 2 decimals.
* You are not asked to submit the Excel file used for calculations.

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**Part 1 (10 points)**

1. Choose **Three** countries who have been impacted by COVID-19 and record:

* the number of people infected with the disease; (1.5 points)
* the number of people cured; (1.5 points)

Record your data in the following tables:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Number of People Infected** | | | | | |
| **Country** | **October**  **2020** | **November**  **'2020** | **December**  **2020** | **January**  **2021** | **February**  **2021** | **Total** |
| 1. |  |  |  |  |  |  |
| 2. |  |  |  |  |  |  |
| 3. |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Number of People Cured** | | | | | |
| **Country** | **October**  **2020** | **November**  **'2020** | **December**  **2020** | **January**  **2021** | **February**  **2021** | **Total** |
| 1. |  |  |  |  |  |  |
| 2. |  |  |  |  |  |  |
| 3. |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |

1. Use Excel to create three different graphs of the above data. Choose from the list below. ( 3 points)

* Bar chart
* Line chart
* Pie chart
* Histogram
* No graph must be the same type. *Example: France – Bar chart, Qatar – Pie chart, and Japan – Line chart.*
* Watch the following videos below for instructions on how to draw graphics in Excel.
* Instructions on how to draw a pie chart in Excel:

<https://www.youtube.com/watch?v=fnE-Yq771nM>

* Instructions on how to draw a bar chart in Excel:

https://www.youtube.com/watch?v=fk-iFv5\_Rdo

* Instructions on how to draw a line chart in Excel: <https://www.youtube.com/watch?v=3PwVWX28dEE>

1. Which graph is best to represent the results of your data? Explain. (2 points)
2. Use the first table and answer each question below in sufficient detail. (2 points)
3. What is the mean, median, mode and range of your data for each country?

* Watch the following video below for instructions on how to calculate descriptive statistics in Excel.

https://www.youtube.com/watch?v=4\_9vGqQaCFk

1. What is the variance, standard deviation and coefficient of variation of your data for each country?

* Watch the following video below for instructions on how to calculate descriptive statistics in Excel.

<https://www.youtube.com/watch?v=4_9vGqQaCFk>

**Part 2 (5 points)**

The coronavirus disease 2019 (COVID-19) pandemic resulted in 124,168,819 reported cases worldwide through March 22, 2021. One of the most important ways to measure the burden of COVID-19 is mortality. The attached Excel file (sheet 1) lists the number of deaths, and the number of confirmed cases in the most affected countries.

1. Use Excel to draw a scatter diagram that describes the relationship between the number of deaths and the number of confirmed cases. Explain what it tells us about the relationship between these two variables. (2 points)

* Watch the following video below for instructions on how to draw a scatter diagram in Excel.

<https://www.youtube.com/watch?v=OVA2M7EIx80>

1. Use Excel to calculate the covariance between the two variables. Interpret your result. (1.5 points)

* Watch the video below for instructions on how to calculate the covariance in Excel.

<https://www.youtube.com/watch?v=0iDmNTH5Ghs>

1. Use Excel to calculate the coefficient of correlation. Interpret your result. (1.5 points)

* Watch the video below for instructions on how to calculate the coefficient of correlation in Excel.

https://www.youtube.com/watch?v=8a\_etQN-qso