Programming Exercise

1. From SAMPLE_DATA create a data frame with the following variables: [5 points]
   1.1 GENDER
   1.2 AGE
   1.3 FAVORITE_SUBJECT
   1.4 FAVORITE_COLOR
   1.5 GRADE_IN_MATH
   1.6 GRADE_IN_STATISTICS_AND_PROBABILITY
   1.7 GRADE_IN_SCIENCE
   1.8 GRADE_IN_MEDIA_AND_INFORMATION_LITERACY

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2. Create subsets out of data frame in number 1 with the following conditions: Name the subsets as "subset2.1", "subset2.2",.. [2 points each]

   2.1 All male whose favorite color is blue and at least 19 years old.

   2.2 All females whose favorite subject is English and with at most 95 grade in Math, and Statistics and Probability.

   2.3 All females whose favorite color is not red and favorite subject is Math.

   2.4 All male whose favorite subject is not Math but with at least 95 grade in Math, and Statistics and Probability.

   2.5 All students whose favorite subject is not English and whose grade in Media and Information Literacy is more than 95.

   2.6 All students whose favorite subject is Science but with less than 95 grade in Science.

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3. Extract all the categorical variables from the SAMPLE_DATA, and create a list of factor of these variables. [5 points]
4. Create the following vector: [1 point each]
    1. vector containing integers from 1 to 20
    2. vector containing colors "Red", "Blue", "Yellow", and "Green"
    3. vector containing letters "A", "B", "C", "D", and "E"
5. Use the vectors from number 4 to create a matrix with values 1 - 20 by column,with row names - "Red", "Blue", "Yellow" and "Green", and column names - "A", "B", "C", "D", and "E". [2 points]
6. Extract the columns for "A", "C", and "D". [2 points]
7. Extract the rows for "Blue" and "Yellow".[2 points]
8. Create a list with a sequence of numbers with 40 elements between 1-20 inclusive, and a factor of your 5 favorite artists. [4 points]

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These are the files that you have to attach in the Google Classroom for this assessment:

- ▶ Script file of your codes
- ▶ One PDF file for the screenshot of outputs in the console for every item or screenshot of view mode of each output.
  (1 point each for every correct output)
- ▶ Screenshot of meeting