1. Consider the `customers.csv` datafile. This file contains information related to customers' activity on a company website. Below are the description of the variables.

   - `ID:` customer ID
   - `Visit_Time:` The number of visits to the company's website in a given month.
   - `Average_Expense:` The average amount of money that the customer has spend.
   - `Sex:` gender of the customer (0: female, 1: male).
   - `Age:` age of the customer.

   **In Python**, answer the following:

   (a) (3 points) Using the `pandas` library, read the csv file and create a data-frame called `customers`.

   (b) (3 points) Using the appropriate Python commands, remove the `ID` variable.

   (c) (8 points) Compute the principal component of the data and visualize the variance explained ratio. How many components would you consider for this dataset? Make sure the put the data on the same scale.

   (d) (8 points) Based on the answer from part (c), compute that number of component and visualize them to estimate the number of cluster in this dataset.

   (e) (6 points) Based on the answer from part (d), cluster those components with $k$-means.

   (f) (4 points) Describe the clusters.