

Data Science Bootcamp Adnexio #1

Assignment 2

Instruction

- Answer all questions
- Upload and submit your answer in Jupyter Notebook file (.ipynb) via Google Classroom
- Name your jupyter notebook file as `firstname_assignment2.ipynb`

Assignment Questions

As a data scientist at Capital Bank, your task is to conduct exploratory data analysis of the churn dataset as provided in `bank_churn.csv` file. This dataset containing demographics and financial records of their clients, which are randomly query from their database system from three countries.

Description of the variables:

- `CreditScore` - Value of credit score of the client. High value indicates healthy credit score.
- `Geography` - Country where the client registered to the bank.
- `Gender` - Gender of the client, either male or female.
- `Age` - Age of the client by year.
- `Balance` - Latest balance of client's saving account.
- `NumOfProducts` - Number of products subscribe by the clients.
- `HasCrCard` - 1 mean the client own credit card of the bank and 0 mean no credit card.
- `EstimatedSalary` - Estimated yearly salary of the client.
- `Exited` - Exited status of the client after 5 years. Churn indicate clients are no longer their customer, while `Stay` mean clients are still their customer after 5 years upon registration.

Obtain the following insights:

1. Check the class's proportion of `Exited`, `Gender` and `Geography`. Describe your findings.
2. Compute mean, median, and standard deviation of `CreditScore` and `Age`.
3. Plot the distribution of `CreditScore` and `Age`. Describe your findings.
4. Compute the churn rate of the clients.
5. Is there any correlation between `CreditScore` and `Age`?
6. Describe the `Exited` based on `Geography`. Compute the churn rate based on `Geography`.
7. Investigate if there is a significant different of `CreditScore` between Male and Female.
8. Did the `Age` influence `Exited` status of the client?
9. Did the `CreditScore` influence the `Exited` status of the client?
10. Investigate if Male is likely to churn compare to Female.