**Problem Statement**

Societe Generale (SocGen) is a French multinational banking and financial services company. With over 1,54,000 employees, based in 76 countries, they handle over 32 million clients throughout the world on a daily basis.

They provide services like retail banking, corporate and investment banking, asset management, portfolio management, insurance and other financial services.

With this problem, we’ll help SocGen in building the intelligence to predict, act and maximise their portfolio returns. Think of a portfolio as a basket. The basket can contain diverse instruments such as equity stocks, debentures, mutual funds etc. Each portfolio is allotted to portfolio managers. Intelligence about future performance would help these portfolio managers to act and take necessary steps in order to overcome losses.

In this challenge, given the randomly sampled data, you’ve to predict the portfolio’s annual returns. Keeping data privacy in mind, some of the variables have been anonymised.

[**Download Dataset**](https://he-s3.s3.amazonaws.com/media/hackathon/brainwaves-17-1/predict-annual-returns/b0a982ac-d-BW2017Data.zip)

**Description**

You are given three files to download: train, test and sample submission. You have to make predictions for 4801 portfolios.

| **Variable Name** | **Description** |
| --- | --- |
| portfolio\_id | unique ID |
| desk\_id | manager ID (the person handling the portfolio, it can be a team) |
| office\_id | place where portfolio is managed |
| pf\_category | portfolio category (anonymised) |
| start\_date | date when portfolio started |
| sold | currency (amount sold) |
| euribor\_rate | euribor lending rate (monthly average) |
| currency | currency in which transaction was made |
| libor\_rate | libor lending rate (monthly average) |
| country\_code | country where office is |
| bought | currency (price at which portfolio is bought) |
| creation\_date | date when portfolio instruments were traded |
| indicator\_code | anonymised |
| sell\_date | date when portfolio is sold |
| type | type of portfolio |
| hedge\_value | if a portfolio got hedged |
| status | anonymised |
| RETURN | target variable |

**Explanation**

1. Start\_date might differ from creation\_date. Creation\_date is the date when the instrument (such as a stock) got transferred to the buyer's account. Stocks are bought on start\_date. Instruments don’t immediately get credited to the buyer’s account. Most stock exchanges, make the trade on next day or might take more days. For example, in india, it takes 24 hours for the stocks to show up in buyers account.
2. Hedging is used to offset risk chances by investing in negatively correlated instruments. For example: Gold is generally a favourite choice of investors to be used as a hedging investment for stock investments i.e when stock market falls, gold prices go up.

**Submission**

A participant has to submit a csv file with portfolio\_id and returns as prediction value. Check the sample submission file for reference. Also, provide quick insights on type of portfolio using charts or in bullet points.

portfolio\_id, return

PF00001001, 0.036564

PF00001004, 0.058741

PF00001009, 0.016457

PF00001013, 0.031121

PF00001014, 0.140010

**Evaluation Metric**

Submissions will be evaluated based on coefficient of determination (R2 score).