



# Capstone Project on Python Fundamentals

## Dataset Explanations

### Attributes

- 1) **id** - Assigned number for Project head who will be in charge of the project.
- 2) **name** - person handling the project
- 3) **city** - locations of the project
- 4) **age** - number of years the project will be active
- 5) **status** - status of the project
- 6) **designation level** - position of the project head
  - o excessive failures indicate designation grades to reduce
  - o a person with a good reputation means that very high chance to increase his designation

### Designation scale -

- a) 1-highest
- b) 2, 3 mid positions and 4 being least
- c) anyone crosses 4 then he loses eligibility for heading project.

## Dataframes

Project DataFrame			
ID	Project	Cost	Status
A001	Project 1	1002000	Finished
A002	Project 2	2000000	On going
A003	Project 3	4500000	Finished
A004	Project 4	5500000	Ongoing
A005	Project 5		Finished
A002	Project 6	680000	Fail ed
A005	Project 7	400000	Finish ed
A003	Project 8	350000	Fail ed
A001	Project 9		Ongoing
A003	Project 10	300000	Finished
A001	Project 11	2000000	Failed
A004	Project 12	1000000	On going
A004	Project 13	3000000	Finished
A005	Project 14	200000	Finished

Employee DataFrame			
ID	Name	City	Age
A001	John Alter	Paris	25
A002	Alice Luxumberg	London	27
A003	Tom Sabestine	Berlin	29
A004	Nina Adgra	Newyork	31
A005	Amy Johny	Madrid	30

Seniority Level DataFrame	
ID	Designation Level
A001	2
A002	2
A003	3
A004	2
A005	3

## Problems

### Task 1

There are three different tables as given above. Please make three dataframes in python and save them as three .csv files. From Task 2 to Task 10, use the saved .csv files only.

### Task 2

The cost column in dataframe "Project" has some missing values. Your task is to compute these missing values. Replace the missing values by running average. You should use "For" loop for this task.

### Task 3

Split the name column in Employee dataframe to two new columns "First Name", "Last Name" and remove the older "name" column.

### Task 4

Join all three dataframes in one single dataframe. Name it "Final"

### Task 5

Add a new bonus column in Final dataframe. Give 5% bonus concerning project cost only for employees who have finished the projects.

### Task 6

Decrease the designation level by 1, whose projects have status "fail". Delete the employee record whose designation level is below 4.

### Task 7

Add a new column for gender, than add "Mr." and "Mrs" to the first name column.

### Task 8

Increase designation level by 1 for the employees whose age is more than 29 years using IF condition

### Task 9

Add the cost of all projects for each Employee and save it in new dataframe "TotalProjCost" with three columns ID, First Name, and Total cost

### Task 10

Print all the employee details whose city name contains the letter "o" in it.

## Performance Evaluation

You need to complete all the given tasks. You should use the various functions from Python libraries NumPy and Pandas to complete the assigned tasks. The goal of the capstone project is to help us better understand your skills and give us an idea of how

you approach tasks relevant to data science. The capstone is a means for us to evaluate what you have learned so far and are you ready for real-world challenges or not.

## **Requirements or Deliverables**

- Submit .ipynb file where all your code and outputs will be residing.
- Each line must have comments