Assignment 1 | 25th February 2021

For any doubts regarding the assignment, ask questions in the Data Science Group in the Community.

Assignment Submission Form: https://forms.gle/RzgMhfMpcAYsem2x5

Submit assignments in Appropriate Dropdowns.

Question 1:

Given the following jumbled word, OBANWRI guess the correct English word.

A. RANIBOW
B. RAINBOW
C. BOWRANI
D. ROBWANI

Question 2:

Write a program that prints “LETS UPGRADE”. (Please note that you have to print in ALL CAPS as given)

Question 3:

Write a program that takes cost price and selling price as input and displays whether the transaction is a Profit or a Loss or Neither.

INPUT FORMAT

- The first line contains the cost price.
- The second line contains the selling price.

OUTPUT FORMAT

- Print "Profit" if the transaction is a profit or "Loss" if it is a loss. If it is neither
- profit nor loss, print "Neither". (You must not have quotes in your output)

NOTE:
Please stick to the input and output format. Don't add anything extra like 'Enter cost price', 'Enter selling price', etc.

Sample Test Cases

	Input	Output
Test Case 1	20 30	Profit
Test Case 2	20 10	Loss
Test Case 3	20 20	Neither
Test Case 4	19 19	Neither
Test Case 5	23 7	Loss
Test Case 6	19 95	Profit

Question 4:

Write a program that takes an amount in Euros as input. You need to find its equivalent in Rupees and display it. Assume 1 Euro equals Rs. 80.

Please note that you are expected to stick to the given input and output format as in sample test cases. Please don't add any extra lines such as 'Enter a number' etc.
Your program should take only one number as input and display the output.

Sample Test Cases

	Input	Output
Test Case 1	20	1600
Test Case 2	50	4000
Test Case 3	72	5760
Test Case 4	7	560
Test Case 5	35	2800
Test Case 6	23	1840
Test Case 7	95	7600
Test Case 8	18	1440

Question 5:

Create an empty list. Accept 10 numbers from the user and append to it the list if it is an even number.

Question 6:

Create a notebook on LIST COMPREHENSION. This exercise is to put you in a Self-learning mode

Question 7:

You have seen in the videos how powerful dictionary data structure is.
In this assignment, given a number n, you have to write a program that generates a dictionary d which contains (i, i*i), where i is from 1 to n (both included).
Then you have to just print this dictionary d.

Example:

Input: 4 will give output as {1: 1, 2: 4, 3: 9, 4: 16}

Input Format: Take the number n in a single line.
Output Format: Print the dictionary d in a single line.

Example:
Input: 8
Output:
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49, 8: 64}

Questions 8:

There is a robot that wants to go to the charging point to charge itself.
The robot moves in a 2-D plane from the original point (0,0). The robot can move toward UP, DOWN, LEFT, and RIGHT with given steps.
The trace of robot movement is shown as the following:

UP 5
DOWN 3
LEFT 3
RIGHT 2

Then, the output of the program should be: 2
The numbers after the direction are steps.
Write a program to compute the distance between the current position after a sequence of movement and the original point. If the distance is float, then just print the nearest integer (use round() function for that and then convert it into an integer).

Input Format:
The first line of the input contains a number n which implies the number of directions to be given.
The next n lines contain the direction and the step separated by a space.
Output Format:
Print the distance from the original position to the current position.
Example:
Input: 4
UP 5
DOWN 3
LEFT 3
RIGHT 2
Output: 2

Questions 9:
Create a NumPy array starting from 2 till 50 with a step size of 3.

Questions 10:
Accept two lists of 5 elements each from the user.
Convert them to NumPy arrays. Concatenate these arrays and print them. Also, sort these arrays and print them.

Questions 11:
Write a code snippet to find the dimensions of a ndarray and its size.

Questions 12:
How to convert a 1D array into a 2D array? Demonstrate with the help of a code snippet
Hint: np.newaxis, np.expand_dims

Questions 13:
Consider two square NumPy arrays. Stack them vertically and horizontally.
Hint: Use vstack(), hstack()

Questions 14:
How to get unique items and counts of unique items?

FAQs

Q. How to upload a jupyter notebook as a part of an assignment?

A. 1. Click "File" option in notebook
2. Go to "Download As" -> "Notebook(.ipynb)"
3. Upload the downloaded .ipynb file to github and share the link in google form.

Q.How do I submit the Assignments?

A. You can use Jupyter Notebook or python files or even Google Colab to Solve your Assignments

Q. Where do I get class links for the next session?

A. All sessions will be Live on our Youtube Channel. Subscribe to LetsUpgrade YouTube Channel. You'll also get an email with the link to the live session.

B. It will be also updated in the Community Group in the pinned post.

Q. I have some doubt, whom do I ask?

A. (a) Post your Queries on the community, someone will help you out.

Q. *Sir don't have an anaconda so how can I solve the assignment?*

A. Use Google Colab: Click me

Q. Can we submit multiple .py or .ipynb assignment solution files for each question separately?

A. Solve all assignments in a single notebook. Make sure you are submitting a single file.

Q. How can we know if my assignment is verified or not? And is it successfully submitted or not?

A. You will receive a mail for your successful submission.