SOFTWARE SYSTEM DEVELOPMENT – Monsoon 2021
Assignment 3A – Python Programming
Submission Due Date: 6 November 2021, 5 pm

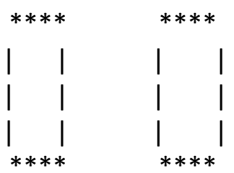
Important Notes:

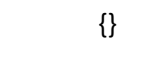
- This assignment is an individual submission.
- This is the 1st part of Assignment 3
- Total Marks of **100**
- You're only allowed to use inbuilt modules. No 3rd party packages are allowed
- All script submissions should be done as per instructions.
- Inputs/output should fit the criteria mentioned in respective questions.
- Submission must be done via Moodle only. Post your queries in Assignment Queries Channel in MS Teams.

A group of friends ordered food for pickup from the menu items provided in csv. Write an interactive python code that accepts input and displays output via command line and calculates the total bill. It should follow the below steps sequentially

- Display the menu along with item cost (Can be comma or tab delimited) **(5)**
- Take input from the user :-the items that the friends plan to order. The input must contain the item id, plate type (half/full) and quantity. (It's upto you how you want to design the input format) **(10)**
- Read input to add tip percentage. Following will be the options provided **(5)**
    - 0
    - 10%
    - 20%
- Display the total amount to be paid, including the tip. **(5)**
- Take input on how many people plan to split the bill **(5)**
- Print the value of share that each person has to contribute. Here share is simply the average value of total price over number of people. **(10)**
- The restaurant has started a limited time event called "Test your luck". Ask the user whether they want to participate in this event
- If yes, then design a lucky draw using a random number generator and following chances (Note: the total discount/increase is applicable on the total bill including the tip) **(15)**
    - There's a 5% chance to get a 50% discount off the total bill
    - 10% chance to get 25% discount
    - 15% chance to get 10% discount
    - 20% chance to get no discount
    - 50% chance that the total amount increases by 20%

- Print the discount value/increase and also display the patterns for following conditions (Note: Ignore the spaces at the beginning of the pattern) **(15)**
    - If the user received a discount, print





    - Else if there was an increase/no discount print

- Regardless of whether the user has participated in the event, proceed to the next step
- Display the total breakdown of the bill (Including the tip) in the following format. Round values upto 2 decimal places. Here total_price = price_of_item * quantity **(15)**

Item 1[Quantity]: total_price

Item 2[Quantity]: total_price

Total: value

Tip Percentage: value

Discount/Increase: value

Final Total: value

- Note: The Discount/Increase would be a negative value in case of discount and positive in case of increase
- Print the updated share that each person has to contribute. **(5)**
- Use Document strings to comment your code and also use naming conventions as per PEP8 standards. **(10)**

Note:

- Format all the decimal values up to 2 places
- Except for the menu which is a csv file to be read, all the I/O must take place via command line
- You can assume that the inputs will be valid

Submission format:

- Create a single file named **bill.py** which contains the code for the above. The code can be split into modules but your submission must be executable from **bill.py**
- Create a readme file which contains instructions on
    - How to execute the code
    - Every step that requires input
- Add all the files in a directory named <rollnumber> and zip the contents as **<rollnumber>.zip**