Python Functions - Assignments - **Part II**
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1. Mr.Jochen working on creating application for his school. Here are the following functions that he would to like create -
    1. get_student_marks - which takes student mark1, mark2 and mark3 and return its total.
    2. get_student_grade - which calls get_student_marks and returns "A" grade if mark1 is greater than 50, else it should return grade "B".
    3. validate_marks - which validates mark1, mark2, mark3. Here are the validations -
        1. If any of the mark is less than zero or not a number, this function should return False.
        2. If any of the mark is greater than 25, then this function should return False.
        3. Else, this function should return True
    4. validate_student_name - this function should check whether student name is of length > 5 and less than 25. If name valid, return True, else return False
    5. main - Function which should take name and marks (m1, m2, m3 respectively).
        a. Call validate_student_name function if it gives False, print "Invalid Student Name".
        b. If not, Call validate_marks function and if it gives False, print "Invalid Mark input".
        c. If not, do a simple check, ensure minimum score of each marks (m1, m2, m3) is greater than or equal to 7. If not, print "You got failed, grades cannot be calculated".
        d. If not, call get_student_grade method and print the grade which this function returned as the output.

2. You are going to design a magical calculator with the following functions.
    • Function that takes input and calculates it's factorial. (A)
    • Function that takes input and calculate it's sum of digits. (B)
    • Function that takes input and find's the largest digit in the input. (C)
    - Implement all the above functions.
    - Get input and pass the input to factorial function (A), get the output from factorial function and pass it as input to sum of digits function (B). Get the output from sum of digits function, add the output with random 5 digit number and pass the outcome to largest digit function (C) and print the output that you receive from function C.

Sample I/O:
    • Input 5
    • Output of A = 120
    • Output of B(120) = 1+2+0 = 3
    • Output of C(3 + 10000 = 10003) = 3 (Here 10000 is the random number)
    • Hence output is 3 , where 3 is the largest digit of 10003.

3. **String Calculator** - Implement String calculator with following functions.
- Function that reverses the given string S. (A)
- Function that returns total A's available (it can be 'a' or 'A') int given string S. (B)
- Function that takes 2 inputs string S and index and returns element at given index. If the index is not available, it should return 0 as the output. (C)
- Function that multiples given string 5 times (D)

- Implement all the above functions.
- Get input and pass it to the reverse function, get the output from it and call function C, function C takes 2 params, first param should be output from function A and second param should be output from function B. Get the output. If the output is not 0, call function D and print output. Else call print "Completed without multiply" as the output.

Sample I/O:
Input: "Hari"
Output:
- Reverse of Hari => iraH
- Output from function C => C("iraH", 1) => r
- Final output = 5 times of r = rrrrr.