CE376 Programming in Python UT-2

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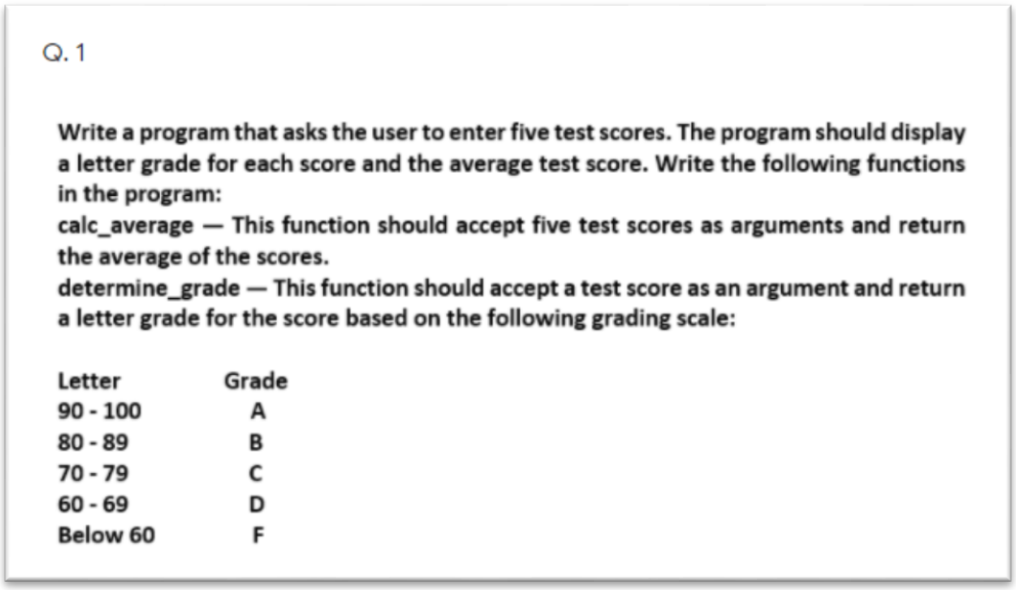


Q. 1

Write a program that asks the user to enter five test scores. The program should display a letter grade for each score and the average test score. Write the following functions in the program:
calc_average — This function should accept five test scores as arguments and return the average of the scores.
determine_grade — This function should accept a test score as an argument and return a letter grade for the score based on the following grading scale:

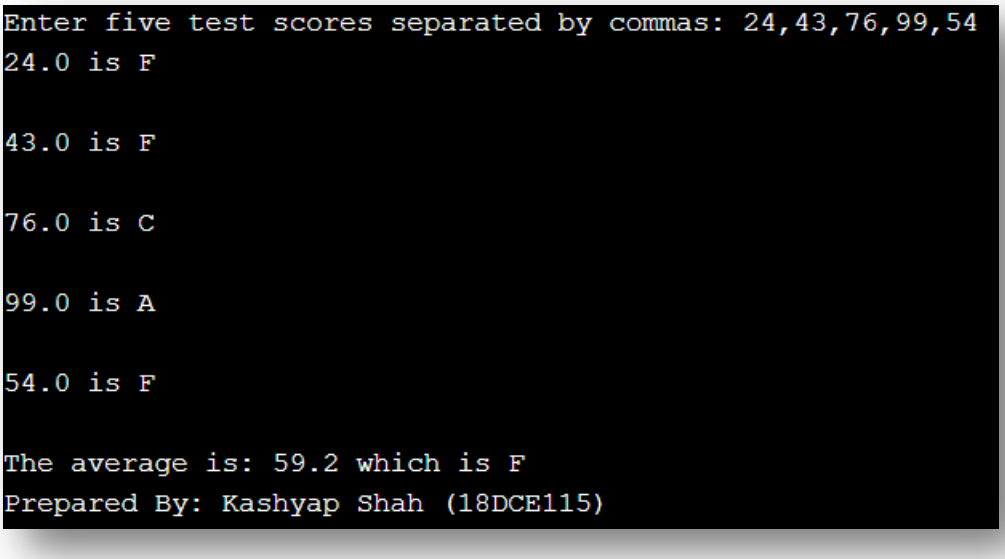
Letter	Grade
90 - 100	A
80 - 89	B
70 - 79	C
60 - 69	D
Below 60	F

PROGRAM CODE:

```
#Taking Values
def main():
    scores = input("Enter five test scores separated by commas: ")
    return [int(num) for num in scores.split(",")]


#function to check grade
def determine_grade(num):
    if 90 <= num <= 100:
        letter_grade = "A"
    elif 80 <= num <= 89:
        letter_grade = "B"
    elif 70 <= num <= 79:
        letter_grade = "C"
    elif 60 <= num <= 69:
        letter_grade = "D"
    else:
        letter_grade = "F"
    return letter_grade
```

```
def calc_average(grades):
    average = sum(grades) / len(grades)
    grade = determine_grade(average)
    print("The average is: {:.1f} which is {}".format(average, grade))
    print("Prepared By: Kashyap Shah (18DCE115)")


#function to print grade
def show_letters(num, letter_grade):
    print("{:.1f} is {}\n".format(num, letter_grade))


lst = main()
for n in lst:
    show_letters(n, determine_grade(n))
calc_average(lst)
```

OUTPUT:



Q. 2

In this exercise you will write a function that determines whether or not a password is good. We will define a good password to be a one that is at least 8 characters long and contains at least one uppercase letter, at least one lowercase letter, and at least one number. Your function should return true if the password passed to it as its only parameter is good. Otherwise, it should return false. Include a main program that reads a password from the user and reports whether or not it is good.

PROGRAM CODE:

```
# Function to validate the password
def password_check(passwd):

    SpecialSym =['$', '@', '#', '%']
    val = True

    if len(passwd) < 6:
        print('length should be at least 6')
        val = False

    if len(passwd) > 20:
        print('length should be not be greater than 8')
        val = False

    if not any(char.isdigit() for char in passwd):
        print('Password should have at least one numeral')
        val = False

    if not any(char.isupper() for char in passwd):
        print('Password should have at least one uppercase letter')
        val = False

    if not any(char.islower() for char in passwd):
        print('Password should have at least one lowercase letter')
```

```
            val = False

        if not any(char in SpecialSym for char in passwd):
            print('Password should have at least one of the symbols $@#')
            val = False
        if val:
            return val

# Main method
def main():
        passwd = input("Enter your value: ")

        if (password_check(passwd)):
            print("Password is valid")
        else:
            print("Invalid Password !!")

# Driver Code
if __name__ == '__main__':
        main()
```

OUTPUT:

```
Enter your value: 25
length should be at least 6
Password should have at least one uppercase letter
Password should have at least one lowercase letter
Password should have at least one of the symbols $@#
Invalid Password !!
```

```
Enter your value: Kashyap@115
Password is valid
```