Question 1.1

import random

def main():

    # Input the string

    input\_string = input("Enter a string: ")

    # Convert the string to a list of characters

    char\_list = list(input\_string)

    # Delete random characters

    num\_deletions = random.randint(2, min(5, len(char\_list)))  # Delete 2 to 5 characters

    for \_ in range(num\_deletions):

        if len(char\_list) >= 2:

            index\_to\_delete = random.randint(0, len(char\_list) - 1)

            del char\_list[index\_to\_delete]

        else:

            print("String is too short to delete more characters.")

            break

    # Reverse the resultant string

    reversed\_string = ''.join(reversed(char\_list))

    # Print the reversed string

    print("Reversed string:", reversed\_string)

if \_\_name\_\_ == "\_\_main\_\_":

    main()

here in this program we have used random.randint which will generate a number of characters to delete form the char\_list. then we will delete the characters using for loop and i have used "reversed" to reverse the characters and ".join" to concatenate.

Output:

A screenshot of a computer

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Question 1.2:

def main():

    try:

        num1 = float(input("Enter the first number: "))

        num2 = float(input("Enter the second number: "))

        # writing formulas for all the arithmetic operations

        addition = num1 + num2

        subtraction = num1 - num2

        multiplication = num1 \* num2

        # logic to avoid dividing by zero

        if num2 != 0:

            division = num1 / num2

        else:

            division = "Cannot divide by zero"

        print("Addition:", addition)

        print("Subtraction:", subtraction)

        print("Multiplication:", multiplication)

        print("Division:", division)

    except ValueError:

        print("Invalid input. Please enter valid numbers.")

if \_\_name\_\_ == "\_\_main\_\_":

    main()

In this program I have written the formulas for all the arithmetic operations and input the numbers and printed the results.

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Question – 2:

def main():

    sentence = input("Enter a sentence: ")

    # logic to replace the word python with pythons

    modified\_sentence = sentence.replace('python', 'pythons')

    # Printing the output

    print("Modified sentence:", modified\_sentence)

if \_\_name\_\_ == "\_\_main\_\_":

    main()

In this program I have used ‘sentence.replace’ to replace the string.

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Question – 3:

def main():

    try:

        class\_score = float(input("Enter the class score: "))

        # Check if the score is greater than 100

        if class\_score > 100:

            print("Invalid input. Class score cannot exceed 100.")

            return

        # writing if else conditions based on the grading scale

        if class\_score >= 90:

            letter\_grade = 'A'

        elif class\_score >= 80:

            letter\_grade = 'B'

        elif class\_score >= 70:

            letter\_grade = 'C'

        elif class\_score >= 60:

            letter\_grade = 'D'

        else:

            letter\_grade = 'F'

        # Printing the grade

        print("Letter grade:", letter\_grade)

    except ValueError:

        print("Invalid input. Please enter a valid number.")

if \_\_name\_\_ == "\_\_main\_\_":

    main()

A screenshot of a computer screen

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GitHub Link: -

<https://github.com/venkateshrudravaram/Neural-Networks-Deep-Learning-Assignments/tree/4e3fdb3acabc930a913f042db0053a3fece766bc>