

2a:

"""Write a python program using Recursive function to calculate sum of a number from 0 to n.

NAME: MOHD HANIF 231P044/01"""

```
def RecursiveSum(n):
```

```
    if n == 0:
```

```
        return 0
```

```
    else:
```

```
        return n + RecursiveSum(n - 1)
```

```
n = int(input("Enter the number to calculate the sum from zero: "))
```

```
sum_result = RecursiveSum(n)
```

```
print(f"Sum of numbers from 0 to {n} is: {sum_result}")
```

```
print("MOHD HANIF 231P044/01")
```

Output:

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

Enter the number to calculate the sum from zero: 6
Sum of numbers from 0 to 6 is: 21
MOHD HANIF 231P044/01
```

2b:

"""Write a program to define a function that accepts roll numbers and returns whether the student is present or absent NAME: MOHD HANIF 231P044/01"""

```
def StudentAttendance(roll, AttendanceList):
```

```
    if roll in AttendanceList:
```

```
        return "Present"
```

```
    else:
```

```
        return "Absent"
```

```
AttendanceList = [9, 3, 40, 41, 42, 36, 23, 11, 5]
```

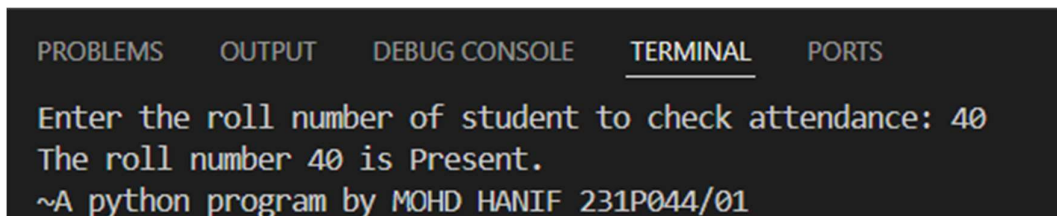
```
roll = int(input("Enter the roll number of student to check attendance: "))
```

```
Attendance = StudentAttendance(roll, AttendanceList)
```

```
print(f"The roll number {roll} is {Attendance}.")
```

```
print("~A python program by MOHD HANIF 231P044/01")
```

Output:



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

Enter the roll number of student to check attendance: 40
The roll number 40 is Present.
~A python program by MOHD HANIF 231P044/01
```

"""Write a python program to find largest between three numbers using functions.

NAME: MOHD HANIF 231P044/01"""

```
print("A program to find the largest among three numbers.....")
```

```
def Largest(num1, num2, num3):
```

```
    if num1 > num2 and num1 > num3:
```

```
        return num1
```

```
    elif num2 > num1 and num2 > num3:
```

```
        return num2
```

```
    else:
```

```
        return num3
```

```
num1 = int(input("Enter number 1: "))
```

```
num2 = int(input("Enter number 2: "))
```

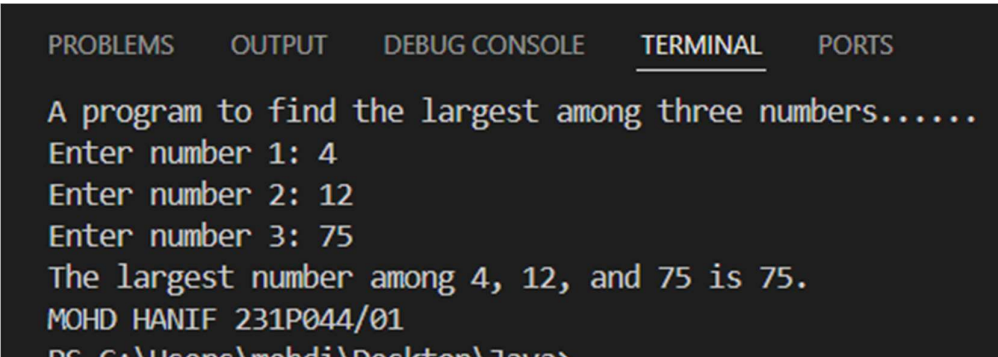
```
num3 = int(input("Enter number 3: "))
```

```
largest = Largest(num1, num2, num3)
```

```
print(f"The largest number among {num1}, {num2}, and {num3} is {largest}.")
```

```
print("MOHD HANIF 231P044/01")
```

Output:



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

A program to find the largest among three numbers.....
Enter number 1: 4
Enter number 2: 12
Enter number 3: 75
The largest number among 4, 12, and 75 is 75.
MOHD HANIF 231P044/01
PS C:\Users\mohdi\Desktop\Java>
```

2d:

"""Write a python program to implement Bubble sort using functions.

NAME: MOHD HANIF 231P044/01"""

```
print("\nA program on Bubble Sort.....")

def bubble_sort(arr):

    n = len(arr)

    for i in range(n - 1): # Optimized loop limit

        swapped = False

        for j in range(n - i - 1):

            if arr[j] > arr[j + 1]:

                arr[j], arr[j + 1] = arr[j + 1], arr[j]

                swapped = True

        if not swapped:

            break

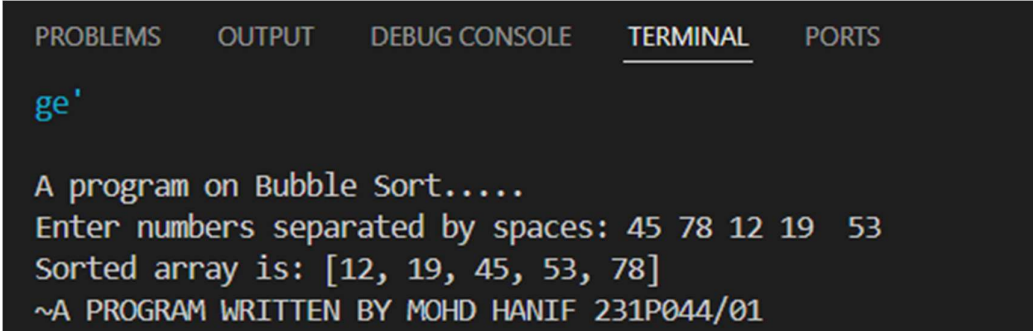
arr = list(map(int, input("Enter numbers separated by spaces: ").split()))

bubble_sort(arr)

print("Sorted array is:", arr)

print("~A PROGRAM WRITTEN BY MOHD HANIF 231P044/01")
```

OutPut:



The screenshot shows a code editor with a dark theme. At the top, there are tabs labeled 'PROBLEMS', 'OUTPUT', 'DEBUG CONSOLE', 'TERMINAL' (which is selected and underlined), and 'PORTS'. Below the tabs, the terminal output is displayed in a monospaced font. It starts with a blue prompt character 'ge'. The output text is: 'A program on Bubble Sort.....', 'Enter numbers separated by spaces: 45 78 12 19 53', 'Sorted array is: [12, 19, 45, 53, 78]', and '~A PROGRAM WRITTEN BY MOHD HANIF 231P044/01'.

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

ge'

A program on Bubble Sort.....
Enter numbers separated by spaces: 45 78 12 19 53
Sorted array is: [12, 19, 45, 53, 78]
~A PROGRAM WRITTEN BY MOHD HANIF 231P044/01
```