# PYTHON LAB PROGRAM 1

1) **AIM: Introduce the Python fundamentals, data types, operators, flow control and exception handling in Python**

   a) Write a python program to find the best of two test average marks out of three test's marks accepted from the user.

```python
m1 = int(input("Enter the marks in the first test: "))
m2 = int(input("Enter the marks in the second test: "))
m3 = int(input("Enter the marks in the third test: "))

if m1 > m2:
   if m2 > m3:
      total = m1 + m2
   else:
      total = m1 + m3
elif m1 > m3:
   total = m1 + m2
else:
   total = m2 + m3

avg = total / 2
print("The average of the best two test marks is:", avg)
```

**Output:**

CASE 1:

Enter the marks in the first test: 20

Enter the marks in second test: 15

Enter the marks in third test: 22

The average of the best two test marks is:  21.0


CASE 2:

Enter the marks in the first test: 24

Enter the marks in second test: 25

Enter the marks in third test: 23

The average of the best two test marks is:  24.5

b) Develop a Python program to check whether a given number is palindrome or not and also count the number of occurrences of each digit in the input number.

```python
try:
    number = int(input("Enter the number: "))
    temp = number
    reverse = 0
    count = 0
    occurrences = {}

    while number > 0:
        digit = number % 10

        if digit in occurrences:
            occurrences[digit] += 1
        else:
            occurrences[digit] = 1

        reverse = reverse * 10 + digit
        number //= 10
        count += 1

    print("The reverse number is:", reverse)

    if temp == reverse:
        print("The number is a palindrome")
    else:
        print("The number is not a palindrome")

    print("Number of digits:", count)
    print("Digit occurrences:", occurrences)

except ValueError:
    print("Invalid input. Please enter a valid integer.")
```

## OUTPUT:
```
Case 1:
Enter the number: 1233
The reverse number is: 3321
The number is not a palindrome
Number of digits: 4
Digit occurrences: {3: 2, 2: 1, 1: 1}

Case 2:
Enter the number: 121
The reverse number is: 121
The number is a palindrome
Number of digits: 3
Digit occurrences: {1: 2, 2: 1}

Case 3:
Enter the number: ABC
Invalid input. Please enter a valid integer.
```