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Experiment No.	**1**

AIM:	**To Understand the Fundamentals of Python**
Program 1	
PROBLEM STATEMENT :	Print the grade of the students when marks are input

PROGRAM:	n = int(input("Enter the number of students: "))
	for i in range(n):
	  print("Enter the marks of student:")
	  marks = int(input())
	
	  if marks >= 90:
	  print("Grade A!\n")
	  elif marks >= 80:
	  print("Grade B!\n")
	  elif marks >= 70:
	  print("Grade C\n")
	  elif marks >= 35:
	  print("Grade D\n")
	  else:
	  print("Fail\n")

RESULT:	

```
Enter the number of students: 3
Enter the marks of student:
45
Grade D

Enter the marks of student:
76
Grade C

Enter the marks of student:
87
Grade B!
```

Program 2	
PROBLEM STATEMENT :	Finding whether a given year is leap or not

PROGRAM:	n = int(input("Enter any year: "))
	
	if n % 4 == 0 and n % 100 != 0:
	  print(n, "is a leap year")
	elif n % 400 == 0:
	  print(n, "is a leap year")
	else:
	  print(n, "is not a leap year")

RESULT:

```
Enter any year: 3045
3045 is not a leap year


...Program finished with exit code 0
Press ENTER to exit console.
```

Program 3	
PROBLEM STATEMENT:	Finding prime numbers in a given range
PROGRAM:	high = int(input("Enter higher value of your range\n"))

```
low = int(input("Enter lower value of your range\n"))

print("The prime numbers are:")

if low == 1:
   low += 1

i = low
while i < high:
   flag = 0
   j = 2
   while j <= i // 2:
      if i % j == 0:
         flag = 1
         break
      j += 1

   if flag == 0:
      print(i)

   i += 1
```

RESULT:

```
Enter higher value of your range
23
Enter lower value of your range
10
The prime numbers are:
11
13
17
19


...Program finished with exit code 0
Press ENTER to exit console.
```

Program 4

PROBLEM STATEMENT:	Calculating the factorial of a number

PROGRAM:	n = int(input("Enter the number of which you want to find the factorial:\n"))
	
	i = 1
	fact = 1
	
	while i <= n:
	  fact *= i
	  i += 1
	
	print("Factorial of the number is", fact)

RESULT:

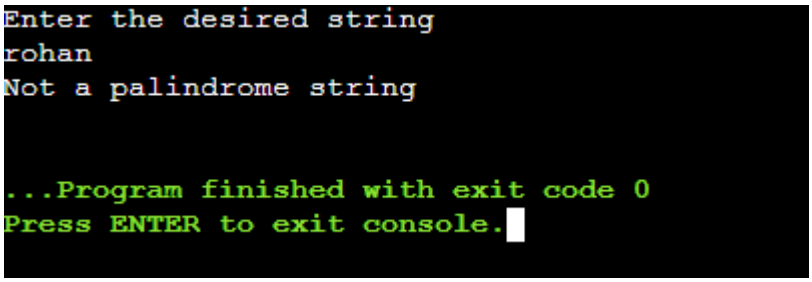
```
Enter the number of which you want to find the factorial:
3
Factorial of the number is 6


...Program finished with exit code 0
Press ENTER to exit console.
```

Program 5	
PROBLEM STATEMENT:	Finding whether a string is Palindrome or not

PROGRAM:	str = input("Enter the desired string\n")
	
	j = len(str) - 1
	flag = 0
	
	for i in range(len(str) // 2):
	  if str[i] != str[j]:
	  flag = 1
	  break
	  else:
	  j -= 1

	if flag == 0:
	  print("Palindrome String")
	else:
	  print("Not a palindrome string")

RESULT:  	
CONCLUSION:	By this experiment, I understood the basics and fundamentals of python language like loops, functions and applied it to solve problems.