1. Write a python program to find the factorial of a number.

```
# there are basically two ways for finding the factorial one by
defining the function and other is the normal iteration method
def factorial(n): #defining the function
    if n==0 or n==1:
        return 1
    else:
        return n*factorial(n-1)
n=int(input("Enter a number :"))
result= factorial(n)
print("The factorial of ",n,"is :",result)
```

```
Enter a number :5
The factorial of  5 is : 120
```

1. Write a python program to find whether a number is prime or composite.

```
num = int(input("Enter a prime number : "))
if num == 1:
    print("1 is composite number")
elif num>1:
    for i in range(2,num):
        if (num%i)==0:
            print(num,"is a composite number")
            break
        else:
            print(num," is prime a prime number ")
else:
    print(num,"is a prime number")
```

```
Enter a prime number : 4
4 is a composite number
```

1. Write a python program to check whether a given string is palindrome or not.

```
# to check whether the given string is palindrome or not we have to
call a function called palindrome which reverse the string
def palindrome(string):
    return string == string[::-1]
string=str(input("Enter a string :"))
ans =palindrome(string)
if ans:
    print("The given string is palindrome")
else:
    print("the given string is not a palindrome")
```

```
Enter a string :malayalam
The given string is palindrome
```

1. Write a Python program to get the third side of right-angled triangle from two given sides.

```
# since its a right-angles traingle
a=int(input("enter the first side of the right-angled traingle :"))
b=int(input("enter the second side of the right-angled traingle :"))
c=pow(((a**2)+(b**2)),0.5) #using the inbuilt pow function
print("The third side of the traingle is :",c)
```

```
enter the first side of the right-angled traingle :3
enter the second side of the right-angled traingle :4
The third side of the traingle is : 5.0
```

1. Write a python program to print the frequency of each of the characters present in a given string.

```
string= str(input("Enter a string :"))
for i in string:
    frequency = string.count(i)
    print(str(i) + ": " + str(frequency), end=", ")
```

```
Enter a string :hello students of datascience
h: 1, e: 4, l: 2, l: 2, o: 2,  : 3, s: 3, t: 3, u: 1, d: 2, e: 4, n:
2, t: 3, s: 3,  : 3, o: 2, f: 1,  : 3, d: 2, a: 2, t: 3, a: 2, s: 3,
c: 2, i: 1, e: 4, n: 2, c: 2, e: 4,
```