11)

In [1]:

```
# Python 3 program to find
# factorial of given number
def factorial(n):

    # single line to find factorial
    return 1 if (n==1 or n==0) else n * factorial(n - 1);

# Driver Code
num = 5;
print("Factorial of",num,"is",
factorial(num))
```

```
Factorial of 5 is 120
```

12)

In [2]:

```
# Python program to check if
# given number is prime or not

num = 11

# If given number is greater than 1
if num > 1:

    # Iterate from 2 to n / 2
    for i in range(2, int(num/2)+1):

        # If num is divisible by any number between
        # 2 and n / 2, it is not prime
        if (num % i) == 0:
            print(num, "is not a prime number")
            break
    else:
        print(num, "is a prime number")

else:
    print(num, "is not a prime number")
```

```
11 is a prime number
```

13)

In [3]:
```
# function which return reverse of a string

def isPalindrome(s):
    return s == s[::-1]


# Driver code
s = "malayalam"
ans = isPalindrome(s)

if ans:
    print("Yes")
else:
    print("No")
```

```
Yes
```

14)

In [4]:
```
def pythagoras(opposite_side,adjacent_side,hypotenuse):
        if opposite_side == str("x"):
            return ("Opposite = " + str(((hypotenuse**2) - (adjacent_side**2)
        elif adjacent_side == str("x"):
            return ("Adjacent = " + str(((hypotenuse**2) - (opposite_side**2)
        elif hypotenuse == str("x"):
            return ("Hypotenuse = " + str(((opposite_side**2) + (adjacent_side
        else:
            return "You know the answer!"

print(pythagoras(3,4,'x'))
print(pythagoras(3,'x',5))
print(pythagoras('x',4,5))
print(pythagoras(3,4,5))
```

```
Hypotenuse = 5.0
Adjacent = 4.0
Opposite = 3.0
You know the answer!
```

15)

In [9]:
```
string=input("Enter the string ")
freq=[None]*len(string)
for i in range(0,len(string)):
  freq[i]=1
  for j in range(i+1,len(string)):
    if(string[i]==string[j]):
        freq[i]=freq[i]+1
        string=string[:j]+'0'+string[j+1:];
print("Character and their frequency");
for i in range(0,len(freq)):
    if(string[i]!=' ' and string[i]!='0'):
        print(string[i]+"="+str(freq[i]))
```

```
Enter the string 10
Character and their frequency
1=1
```