In [1]:
```
#factorial program
```

In [6]:
```
num = int(input("Enter a number: "))
factorial = 1

if num < 0:
    print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
    print("The factorial of 0 is 1")
else:
    for i in range(1,num + 1):
        factorial=factorial*i
    print("The factorial of",num,"is",factorial)
```

```
Enter a number: 9
The factorial of 9 is 362880
```

In [ ]:
```
#prime number or composite number
```

In [12]:
```
num=14
if num > 1:

    for i in range(2, int(num/2)+1):

        if (num % i) == 0:
            print(num, "is composite number")
            break
    else:
        print(num, "is a prime number")
else:
    print(num, "is composite number")
```

```
14 is composite number
```

In [ ]:
```
#string is palindrome or not
```

In [14]:
```
my_str = 'SiRiSHa'

# make it suitable for caseless comparison
my_str = my_str.casefold()
```

```
# reverse the string
rev_str = reversed(my_str)

# check if the string is equal to its reverse
if list(my_str) == list(rev_str):
   print("The string is a palindrome.")
else:
   print("The string is not a palindrome.")
```

```
The string is not a palindrome.
```

In [ ]:
```
#right angled triangle from given sides
```

In [17]:
```
def pythagoras(opposite_side,adjacent_side,hypotenuse):
        if opposite_side == str("x"):
            return ("Opposite = " + str(((hypotenuse**2) - (adjacent_side**2))**0.5))
        elif adjacent_side == str("x"):
            return ("Adjacent = " + str(((hypotenuse**2) - (opposite_side**2))**0.5))
        elif hypotenuse == str("x"):
            return ("Hypotenuse = " + str(((opposite_side**2) + (adjacent_side**2))**0.5))
        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!
```

In [ ]:
```

```

In [18]:
```
n=input("Enter the String: ").lower()
s={}
for i in n:
    if i in s:
        s[i]+=1
    else:
        s[i]=1
print(s)
```

```
Enter the String: geetha
{'g': 1, 'e': 2, 't': 1, 'h': 1, 'a': 1}
```

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]: