In [6]:
```
a = int(input("enter a number:"))
f = 1
for i in range(1,a+1):
        f = f * i

print(f'the factorial of the no is {f}')
```

```
enter a number:2
the factorial of the no is 2
```

In [8]:
```
count=0
k=int(input('enter the no:'))
for i in range(1,k+1):
    if k%i==0 and k%k==0:
        count=count+1
    else:
        count=count
if count==2:
    print("prime no")
else:
    print("composite no")
```

```
enter the no:2
prime no
```

In [10]:
```
string=input("enter a string:")
if(string==string[::-1]):
    print("the string is a palindrome")
else:
    print("the string is not a palindrome")
```

```
enter a string:anna
the string is a palindrome
```

In [11]:
```
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 [12]:
```
def char_frequency(str1):
    dict = {}
    for n in str1:
        keys = dict.keys()
        if n in keys:
            dict[n] += 1
```

```
        else:
            dict[n] = 1
    return dict
print(char_frequency('notebook'))
```

```
{'n': 1, 'o': 3, 't': 1, 'e': 1, 'b': 1, 'k': 1}
```