In [1]:
```
# Answer 11
```

In [2]:
```
def factorial(x):
    if x==1:
        return 1
    else:
        return(x*factorial(x-1))

num = 8
```

In [3]:
```
result = factorial(num)

print("the factorial of",num,"is",result)
```

```
the factorial of 8 is 40320
```

In [4]:
```
# Answer 12
```

In [5]:
```
num = 10

if num>1:
    print("it is a prime number")

elif num<=1:
    print("it is not a prime number")
```

```
it is a prime number
```

In [6]:
```
# Answer 13
```

In [7]:
```
my_str = "mam"

rev_str = reversed(my_str)

if list(my_str)==list(rev_str):
    print("it is a palindrome")

else:
    print("it is not a palindrome")
```

```
it is a palindrome
```

In [3]:
```
"Answer 14"
```

Out[3]:
```
'Answer 14'
```

In [10]:
```
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"
```

In [11]:
```
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]:
```
# Answer 15
```

In [13]:
```
string ="ammy"
for i in string:
    frequency = string.count(i)
    print(str(i),':',str(frequency),end = ',')
```

```
a : 1,m : 2,m : 2,y : 1,
```

In [ ]:
```

```