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In [3]: import math
def fact(n):
    return(math.factorial(n))

num = int(input("Enter the number:"))
f = fact(num)
print("Factorial of", num, "is", f)

Enter the number:6
Factorial of 6 is 720
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In [5]: num = int(input("Enter a number: "))

if num > 1:
    for i in range(2,num):
        if (num % i) == 0:
            print(num,"is not a prime number")
            print(i,"times",num//i,"is",num)
            break
        else:
            print(num,"is a prime number")

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

Enter a number: 8
8 is not a prime number
2 times 4 is 8
```

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In [13]: str = 'JaVaJ'
sstr = str.casefold()

# This string is reverse.
rev = reversed(str)

if list(str) == list(rev):
    print("PALINDROME !")
else:
    print("NOT PALINDROME !")

PALINDROME !
```

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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))

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

Hypotenuse = 5.0
Adjacent = 4.0
Opposite = 3.0
```

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In [12]: # Python3 code to demonstrate
# each occurrence frequency using
# collections.Counter()
from collections import Counter

# initializing string
test_str = "Shikha"

# using collections.Counter() to get
# count of each element in string
res = Counter(test_str)

# printing result
print ("Count of all characters in Shikha is :\n "
      + str(res))

Count of all characters in Shikha is :
Counter({'h': 2, 'S': 1, 'i': 1, 'k': 1, 'a': 1})
```

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In [ ]:
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