

# If conditional statement

```
In [1]: Jonny = True  
        Babby = False  
  
        Babby_jonny = Jonny and Babby  
        print(Babby_jonny)
```

False

```
In [2]: honey = True  
        Bunny = True  
  
        sunny = honey and Bunny  
        print(sunny)
```

True

```
In [3]: Jonny = False  
        Babby = False  
  
        Babby_jonny = Jonny and Babby  
        print(Babby_jonny)
```

False

```
In [4]: Jonny = True  
        Babby = False  
  
        Babby_jonny = Jonny or Babby  
        print(Babby_jonny)
```

True

```
In [5]: Jonny = False  
        Babby = False
```

```
Babby_jonny = Jonny or Babby  
print(Babby_jonny)
```

False

## Mark Even and Odd

```
In [6]: x = 4  
r = x % 2  
  
if r == 0:  
    print('Even number')
```

Even number

```
In [7]: x = 46  
r = x % 2  
  
if r == 0:  
    print('Even number')
```

Even number

```
In [8]: x = 69  
r = x % 2  
  
if r!=0:  
    print('odd number')
```

odd number

```
In [9]: x = 71  
r = x % 2  
  
if r!=0:  
    print('odd number')
```

odd number

# The Else Statement

```
In [10]: a=90
         if a>10:
             print('bigger num')
         else:
             print('smaller num')
```

bigger num

```
In [11]: a=10
         if a>100:
             print('bigger num')
         else:
             print('smaller num')
```

smaller num

```
In [12]: a=1
         if a>10:
             print('bigger num')
         else:
             print('smaller num')
```

smaller num

```
In [13]: a=12
         if a>10:
             print('bigger num')
         else:
             print('smaller num')
```

bigger num

# Odd or Even

```
In [14]: a=12
         if a>10:
```

```
print('True')
else:
    print('False')
```

True

```
In [15]: a=8
if a>10:
    print('True')
else:
    print('False')
```

False

```
In [16]: a=12
if a>100:
    print('True')
else:
    print('False')
```

False

```
In [17]: a=121
if a>100:
    print('True')
else:
    print('False')
```

True

## Greatest of Three

```
In [18]: a=89
b=78
c=34
num =[a,b,c,]
num.sort(reverse=True)

print("greatest three num are:", num[:3])
```

greatest three num are: [89, 78, 34]

```
In [19]: a=9
b=78
c=34
num =[a,b,c,]
num.sort(reverse=True)

print("greatest three num are:", num[:1])
```

greatest three num are: [78]

```
In [20]: a=89
b=78
c=34
num =[a,b,c,]
num.sort(reverse=False)

print("smallest three num are:", num[:1])
```

smallest three num are: [34]

```
In [21]: a=89
b=8
c=34
num =[a,b,c,]
num.sort(reverse=False)

print("smallest three num are:", num[:1])
```

smallest three num are: [8]

```
In [22]: a=1
b=2
c=3
d=4
e=5
if a>b and a>c and c>d and a>e:
    print(a)
elif b>a and b>c and b>d and b>e:
    print(b)
elif c>a and c>b and c>d and c>e:
```

```
print(c)
elif d>a and d>b and d>c and d>e:
    print(d)
else:
    print(e)
```

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```
In [23]: a=1
b=32
c=3
d=4
e=5
if a>b and a>c and c>d and a>e:
    print(a)
elif b>a and b>c and b>d and b>e:
    print(b)
elif c>a and c>b and c>d and c>e:
    print(c)
elif d>a and d>b and d>c and d>e:
    print(d)
else:
    print(e)
```

32

## Calculator

```
In [24]: a = 1
b = 2
operator = 2
if operator == 1:
    print(a + b)
elif operator == 2:
    print(a - b)
elif operator == 3:
    print(a * b)
elif operator == 4:
    print(a / b)
```

```
else:  
    print("Invalid operator")
```

-1

```
In [25]: class Solution:  
        def calculate(self, a: int, b: int, operator: int) -> None:  
            if operator == 1:  
                print(a + b)  
            elif operator == 2:  
                print(a - b)  
            elif operator == 3:  
                print(a * b)  
            elif operator == 4:  
                print(a / b)  
            else:  
                print("Invalid operator")  
  
obj = Solution()  
obj.calculate(10,2,2)
```

8

```
In [26]: class Solution:  
        def calculate(self, a: int, b: int, operator: int) -> None:  
            if operator == 1:  
                print(a + b)  
            elif operator == 2:  
                print(a - b)  
            elif operator == 3:  
                print(a * b)  
            elif operator == 4:  
                print(a / b)  
            else:  
                print("Invalid operator")  
  
obj = Solution()  
obj.calculate(10, 2, 2)
```

8

```
In [27]: class Solution:
    def calculate(self, a: int, b: int, operator: int) -> None:
        if operator == 1:
            print(a + b)
        elif operator == 2:
            print(a - b)
        elif operator == 3:
            print(a * b)
        elif operator == 4:
            print(a / b)
        else:
            print("Invalid operator")

obj = Solution()
obj.calculate(10,2,2)
```

8

```
In [28]: class Solution:
    def calculate(self, a: int, b: int, operator: int) -> None:
        if operator == 1:
            print(a + b)
        elif operator == 2:
            print(a - b)
        elif operator == 3:
            print(a * b)
        elif operator == 4:
            print(a / b)
        else:
            print("Invalid operator")

obj = Solution()
obj.calculate(16,2,2)
```

14

```
In [29]: class Solution:
    def calculate(self, a: int, b: int, operator: int) -> None:
        if operator == 1:
            print(a + b)
        elif operator == 2:
```



```
        print(a - b)
    elif operator == 3:
        print(a * b)
    elif operator == 4:
        print(a / b)
    else:
        print("Invalid operator")

obj = Solution()
obj.calculate(10,2,2)
```

8

## Closest Number

```
In [30]: # Input
n = 13
m = 4
q = n // m
num1 = m * q
num2 = m * (q + 1)
# Check which one is closer
if abs(n - num1) < abs(n - num2):
    print(num1)
else:
    print(num2)
```

12

```
In [31]: n = 710
m = 38
q = n // m
num1 = m * q
num2 = m * (q+1)
if abs(n - num1) < abs(n - num2):
    print(num1)
else:
    print(num2)
```

722

```
In [32]: n = -30
m = 5
q = n // m
num1 = m * q
num2 = m * (q + 1)
# Check which one is closer, and if tie choose one with greater absolute value
if abs(n - num1) < abs(n - num2):
    print(num1)
elif abs(n - num1) > abs(n - num2):
    print(num2)
else:
    # If both are equally close, choose the one with greater absolute value
    print(num1 if abs(num1) > abs(num2) else num2)
```

-30

```
In [33]: n = 710
m = 38
q = n // m
num1 = m * q
num2 = m * (q+1)
if abs(n - num1) < abs(n - num2):
    print(num1)
elif abs(n - num1) > abs(n - num2):
    print(num2)
else:
    print(num1 if abs(num1) > abs(num2) else num2)
```

722

```
In [34]: class Solution:
    def calculate(self, a: int, b: int, operator: int) -> None:
        if operator == 1:
            print(a + b)
        elif operator == 2:
            print(a - b)
        elif operator == 3:
            print(a * b)
        elif operator == 4:
```

```
        print(a / b)
    else:
        print("Invalid operator")

obj = Solution()
obj.calculate(4000,40,2)
```

3960

```
In [35]: class Solution:
        def closestNumber(self, n, m):
            q = n // m
            num1 = m * q
            num2 = m * (q + 1)
            if abs(n - num1) < abs(n - num2):
                return num1
            else:
                return num2
obj = Solution()
print(obj.closestNumber(20,5))
```

20

```
In [36]: obj = Solution()
print(obj.closestNumber(20,5))
```

20

```
In [37]: obj = Solution()
print(obj.closestNumber(2088,5))
```

2090

## Factorial

```
In [38]: class Solution:
        def factorial(self, n):
            result = 1
            for i in range(1, n + 1):
```

```
    result *= i  
    return result
```

In [39]: `1*7*9*8*49`

Out[39]: 24696

In [40]: `n = 10  
fact = 1  
for i in range(1, n + 1):  
 fact = fact * i  
print(fact)`

3628800

In [41]: `n = 1011  
fact = 1  
for i in range(1, n + 1):  
 fact = fact * i  
print(fact)`

[illegible]

In [42]:

```
n = 1011
fact = 1
for i in range(1, n + 1):
    fact = fact * i
print(fact)
```

# Check Prime

```
In [ ]: n = int(input())
        if n > 1:
            for i in range(2, int(n**0.5) + 1):
```

```
    if n % i == 0:  
        print(False)  
        break  
    else:  
        print(True)  
else:  
    print(False)
```

In [ ]: