

CONDITIONAL STATEMENT

.if .else .nested if (if inside if) .if elif else

```
In [1]: if True:
        print('data science job')
```

data science job

```
In [2]: if False:
        print('data science')
        print('buy buy')
```

buy buy

```
In [3]: if True:
        print('data science')
        print('buy buy')
```

data science

buy buy

it's show both line as out put so we need else:

```
In [5]: if False:
        print('data science')
        else:
        print('buy buy')
```

buy buy

```
In [6]: if True:
        print('data science')
        else:
        print('buy buy')
```

data science

```
In [11]: x=4
         r= x % 2
         if r == 0:
             print('Even number')
```

Even number

```
In [12]: x=5
         r= x % 2
         if r == 0:
             print('Even number')
```

```
In [16]: x=5
         r = x % 2
```

```
if r != 0:
    print('odd number')
```

odd number

```
In [17]: x = 7
r = x % 2
if r == 1:
    print('odd number')
```

odd number

```
In [18]: x = 5
r = x % 2
if r == 0:
    print('Even number')
if r == 1:
    print('odd number')
```

odd number

```
In [ ]: # but in real world we don't use if multiple time bcz it excute number of time
```

```
In [19]: x = 5
r = x % 2
if r == 0:
    print('Even number')
else:
    print('odd number')
```

odd number

```
In [20]: x=9
r=x % 2
if r!= 0:
    print('odd number')
else:
    print('evn number')
```

odd number

```
In [21]: x=3
r=x % 2
if r == 0:
    print('Even number')
    if x>5:
        print('greater then 5')

else:
    print('odd number')
```

odd number

```
In [22]: x=6
r=x % 2
if r == 0:
    print('Even number')
    if x>5:
        print('greater then 5')
```

```
else:
    print('odd number')
```

Even number
greater than 5

```
In [23]: x=4
r = x % 2
if r == 0:
    print('even number')
    if x > 5:
        print('greater than')
    else:
        print('less than')
else:
    print('odd Number')
```

even number
less than

```
In [26]: x=19
r = x % 2
if r == 0:
    print('even number')
    if x > 5:
        print('greater than')
    else:
        print('less than')
else:
    print('odd Number')
```

odd Number

```
In [27]: x=3
if x == 1:
    print('one')
if x == 2:
    print('two')
if x == 3:
    print('three')
if x == 4:
    print('four')
```

three

```
In [28]: x=1
if x == 1:
    print('one')
if x == 2:
    print('two')
if x == 3:
    print('three')
if x == 4:
    print('four')
```

one

```
In [29]: x=6
if x == 1:
    print('one')
if x == 2:
    print('two')
```

```
if x == 3:
    print('three')
if x == 4:
    print('four')
else:
    print('number not found')
```

number not found

```
In [30]: x=1
if x == 1:
    print('one')
elif x == 2:
    print('two')
elif x == 3:
    print('three')
elif x == 4:
    print('four')
```

one

```
In [31]: x=6
if x == 1:
    print('one')
elif x == 2:
    print('two')
elif x == 3:
    print('three')
elif x == 4:
    print('four')
else:
    print('number not found')
```

number not found

```
In [32]: age=19
if age > 18:
    print("Eligible to vote.")
```

Eligible to vote.

```
In [34]: age=12
if age > 18:
    print("Eligible to vote.")
else:
    print("Not Eligible")
```

Not Eligible

```
In [1]: age = 10
if age <=12:
    print("Travel for free.")
else:
    print("pay for ticket.")
```

Travel for free.

```
In [2]: marks=45
res="pass" if marks >=40 else "Fail"
print(f"Result: {res}")
```

Result: pass

```
In [5]: age=25
if age <= 12:
    print("child")
elif age <=19:
    print("teenager")
elif age<=35:
    print("young adult")
else:
    print("adult")
```

young adult

Nasted if else

```
In [6]: age=70
is_member = True
if age>=60:
    if is_member:
        print("30% senior discount !")
    else:
        print("20% senior discount")
else:
    print("Not eligible for a senior discount.")
```

30% senior discount !

ternary conditional statement

```
In [7]: age=20
s = "Adult" if age >= 18 else "Minor"
print(s)
```

Adult

Match - case statement

```
In [8]: number =2
match number:
    case 1:
        print("one")
    case 2:
        print("two or three")
    case _:
        print("other number")
```

two or three

Check multiple conditions with if statement -python

```
In [9]: age=18
if age >=18:
```

```
    print("you are an adult")
else:
    print("you are a minor")
```

you are an adult

```
In [11]: age=18
if(age >=8 and age <= 12):
    print("you are allowed.welcome!")
else:
    print("Sorry ! you are not allowed")
```

Sorry ! you are not allowed

```
In [18]: var ='N'
if (var == 'Y' or var == 'y'):
    print("you said yes")
elif (var == 'N' or var == 'n'):
    print("you said no")
else:
    print("invalid input")
```

you said no

```
In [19]: a=7
b=9
c=3
if a>b and a>c:
    print(a,"is the largest")
elif b>a and b>c:
    print(b,"is the largest")
elif c>a and c>b:
    print(c,"is the largest")
else:
    print("all number are equal or there is a tie")
```

9 is the largest

```
In [20]: a=1
b=1
c=1
if(a==1 and b==1 and c ==1):
    print('working')
else:
    print('stopped')
```

working

python if AND

```
In [21]: a=20
b=True
if a>=18 and b:
    print("Eligible")
else:
    print("ineligible")
```

Eligible

```
In [22]: a=23
b="yes"
if a>=18 and b=="yes":
    print("granted")
else:
    print("denied")
```

granted

```
In [23]: p="securepass123"
if len(p) >=8 and any(char.isdigit() for char in p):
    print("valid")
else:
    print("invalid")
```

valid

```
In [24]: a=50
b=True
if a>0 and b:
    print ("fight")
else:
    print("No fight")
```

fight

some PYTHON CONDITIONAL STATEMENT PROBLEMS

1.Even or odd

```
In [29]: a=3
r =a%2
if r==0:
    print('Even')
else:
    print('Odd')
```

Odd

```
In [30]: a=4
r =a%2
if r==0:
    print('Even')
else:
    print('Odd')
```

Even

```
In [ ]: #Positive,Negative,or Zero
```

```
In [31]: a=5
if a >0:
    print('positive')
elif a<0:
    print('Negative')
else:
    print('zero')
```

positive

```
In [32]: a=-1
if a >0:
    print('positive')
elif a<0:
    print('Negative')
else:
    print('zero')
```

Negative

```
In [33]: a=0
if a >0:
    print('positive')
elif a<0:
    print('Negative')
else:
    print('zero')
```

zero

Leap year Checker

```
In [38]: year = int(input("Enter a year : "))
if (year % 4 == 0):
    if(year % 100 == 0):
        if(year %400 == 0):
            print(f"{year} is a leap year")
        else:
            print(f"{year} is not a leap year")
    else:
        print(f"{year} is a leap year")
else:
    print(f"{year} is not a leap year")
```

2025 is not a leap year

CALCULATOR USING IF-ELIF-ELSE

```
In [8]: NUM1=float(input("Enter the first number: "))
NUM2=float(input("Enter the second number: "))
operation = input("choose an operation (+,-,*,/): ")
if operation == '+':
    result = NUM1 + NUM2
    print(f"{NUM1} + {NUM2}= {result}")
elif operation == '-':
    result = num1 - num2
    print(f"{NUM1} - {NUM2}= {result}")
elif operation == '*':
    result = NUM1 * NUM2
    print(f"{NUM1} * {NUM2}= {result}")
elif operation == '/':
    result = NUM1 / NUM2
    print(f"{NUM1} / {NUM2}= {result}")
else:
    print("invalid operation. please chouse +,-,*,/.)")
```


`20.0 / 2.0= 10.0`

In []:

In []: