## `if` Statement

- Used to check a condition.
- If the condition is `True`, the block of code runs.

```python
if condition:
    # code to execute
```

---

## `elif` Statement (else if)

- Used to check **another condition** if the previous one was `False`.
- Can use **multiple** `elif` blocks.

```python
if condition1:
    # code if condition1 is True
elif condition2:
    # code if condition2 is True
```

---

## `else` Statement

- Runs only if **all above conditions are False**.
- No condition is written with `else`.

```python
if condition1:
    # code
elif condition2:
    # code
else:
    # default code
```

---

## Key Points

- Conditions must return `True` or `False`.
- Blocks are defined by **indentation**.
- Only the **first true** condition is executed.

```
In [3]:  age=18
```

```
In [7]:  age=int(input('enter your age'))

         if age>=18:
             print('you can vote')
         elif age<18:
             print('you cannot vote')
```

you can vote

```
In [8]: marks = int(input('enter your marks'))
        if marks<0 or marks>100:
            print('inapproproate request')
        # elif marks>0 and marks<101:
        # print('CONFIRMED')
        else:
            print('confirmed')
```

confirmed

```
In [10]: # question
         # user --> number --> tell if it is positive or negative
         usernumber = int(input('enter your number'))
         if usernumber<0:
             print('negative')
         else:
             print('positive')
```

positive

```
In [11]: n=int(input('enter a number'))
         if n>0:
             print('positive')
         elif n<0:
             print('negative')
         else:
             print('netural')
```

netural

```
In [13]: # even -- odd
         n=int(input('enter a number'))
         if n%2==0:
             print('even')
         else:
             print('odd')
```

odd

```
In [14]: # nested if else
         # login
         user='gaurav'
         password='apkagaurav'
         userinput=input('enter username')
         if userinput==user:
             key=input('enter password')
             if key==password:
                 print('access granted')
             else:
                 print('invalid password')
         else:
             print('invalid user')
```

access granted

```
#### calculator
# 2 number
print('menu'.capitalize().center(70))
print('1.Addition\n.Subtraction\n3.Division\n4.Multiplication')
print(*_*80)
choice=int(input('enter your choice'))
if choice>4 or choice<1:
    print('error')
    #break
a=float(input('enter first number'))
b=float(input('enter second number'))

if choice == 1:
    result=a+b
    print('sum of a and b is ',a+b)
elif choice==2:
    result=a-b
    print('Subtraction of a and b is ',a-b)
elif choice==3:
    result=a/b
    print('Division a of and b is ',a/b)
elif choice==4:
    result==a*b
    print('Multiplication of a and b is ',a*b)
```

```
                                Menu
1.Addition
.Subtraction
3.Division
4.Multiplication

Subtraction of a and b is  21.0
```