- we have 3 cases in conditional statements
- Case-1: if
- Case-2: if-else
- Case-3: if-elif-else
- Conditional statements mean we are asking a question
- When we ask the question computer wil give True and False
- If True then we wants to execute statements
- If False also we can execute statements

Case-1: if

In [ ]:
```
#syntax
# if the statement starts with any keyword
# end of the statement : will be there
# when : is there then we need to provide indentation
# indetation means next lines has start with some space

# if <condition>:
#    <st1>
#    <st2>
#     -----
#    <stn>

# if the condition is True then only
# it will go to the inside if block and run the cells
```

In [1]:
```
a=10
print(a)
```

```
10
```

In [2]:
```
100>10
```

Out[2]: True

In [7]:
```
if 100>10:
    print("manish")
```

```
manish
```

Error1: Indentation error

In [8]:
```
if 100>10:
print("manish")
```

```
  Cell In[8], line 2
    print("manish")
    ^
IndentationError: expected an indented block after 'if' statement on line 1
```

Error2: miss the : at the end

In [9]:
```
if 100>10
    print("manish")
```

```
  Cell In[9], line 1
    if 100>10
              ^
SyntaxError: expected ':'
```

Error3: No condition

In [11]:
```
if:
print("manish")
```

```
  Cell In[11], line 1
    if:
      ^
SyntaxError: invalid syntax
```

In [12]:
```
if 100<10:
    print("python")
```

In [13]:
```
100>10
```

Out[13]: True

In [14]:
```
if True:
    print("python")
```

```
python
```

In [ ]:
```
if 100>10:
    print("python")
```

In [15]:
```
if False:
    print("python")
```

In [16]:
```
print(1)
print(2)
if 100>10:
    print("manish")
    print("bye")
```

```
1
2
manish
bye
```

In [19]:
```
print(1)
print(2)
##############################
if 100>10:
    print("manish")
```

```
    print("bye")
################################
print("hello")
print("python")
```

```
1
2
manish
bye
hello
python
```

In [20]:
```
print(1)    #  1
print(2)    # 2
##############################
if 100<10: #  False
    print("manish")
    print("bye")
################################
print("hello") # hello
print("python") # python
```

```
1
2
hello
python
```

In [21]:
```
print(1)
print(2)
##############################
if 100>10:
    print("manish")
    print("bye")
################################
print("hello")
print("python")
#####################################
if 1000>100:
    print("good")
    print("day")
```

```
1
2
manish
bye
hello
python
good
day
```

In [ ]:
```
**Case-2: if-else**

# syntax

# if <condition>:
    # st1
    # st2
# else:
    #st1

# if block required condition
```

```
# if block condition fails
# then automatically it goes to else block
# so else block does not require condition
```

In [22]:
```
if 100>10:
    print("good condition is correct")
else:
    print("Bad condition is wrong")
```

```
good condition is correct
```

In [23]:
```
if 100<10:
    print("good condition is correct")
else:
    print("Bad condition is wrong")
```

```
Bad condition is wrong
```

In [24]:
```
if 100>10:
    print("good condition is correct")
else False:
    print("Bad condition is wrong")
```

```
  Cell In[24], line 3
    else False:
         ^
SyntaxError: expected ':'
```

In [27]:
```
print(1)
if 100>10:
    print("good condition is correct")
    print(2)
print(3)
else :
    print("Bad condition is wrong")
    print(4)
print(5)
```

```
  Cell In[27], line 6
    else :
    ^
SyntaxError: invalid syntax
```

In [28]:
```
print(1)
if 100>10:
    print("good condition is correct")
    print(2)

else :
    print("Bad condition is wrong")
    print(4)
print(5)
```

```
1
good condition is correct
2
5
```

In [29]:
```
print(1)
if 100>10:
    print("good condition is correct")
```

```
    print(2/0)

else :
    print("Bad condition is wrong")
    print(4)
print(5)
```

```
1
good condition is correct
---------------------------------------------------------------------------
ZeroDivisionError                         Traceback (most recent call last)
Cell In[29], line 4
      2 if 100>10:
      3     print("good condition is correct")
----> 4     print(2/0)
      6 else :
      7     print("Bad condition is wrong")

ZeroDivisionError: division by zero
```

In [33]:
```
5/4  # / : division Normal division
```

Out[33]: 1.25

In [34]:
```
5//4 # // : floor division : Quotient
```

Out[34]: 1

In [35]:
```
5%4 # % : modulus : Reminder
```

Out[35]: 1

In [37]:
```
#WAP ask the user enter a value from keyboard
# Find whether the number is even or odd

# hint: num%2==0
# step-1: get the number from keyboard
# step-2: if <condition>:
# step-3:    print(f"the {num} is even")
# step-4: else:
# step-5:    print(f"the {num} is odd")

# = means assigning a vlaue
# == checking the condition
num=eval(input("enter the number:"))
if num%2==0:
    print(f"the {num} is even")
else:
    print(f"the {num} is odd")
```

```
the 143 is odd
```

In [39]:
```
# wap implment above the code
# by taking number randomly between 10,100
import random
num=random.randint(10,100)
if num%2==0:
    print(f"the {num} is even")
```

```
else:
    print(f"the {num} is odd")
```

```
the 74 is even
```

In [48]:
```
# Game program
# there are two numbers
# num1 comes from random
# num2 is taking from the keyboard
# if both numbers are equal
#     then print  you won
# else
#       print you loss
import random
num1=random.randint(1,10)
print(num1)
num2=eval(input("enter the number:"))
if num1==num2:
    print("won")
else:
    print("loss")
```

```
7
loss
```

In [51]:
```
# wap ask the user enter how much distance need to travel
#     ask the user enter charge per km
#     if the distance >25 km
#          then print total charge
#     otherwise
#          print free ride

dist = eval(input("How much distance need to travel :"))
if dist > 25:
    charge = eval(input("Enter charge per km: "))
    print(f"Total charge : {dist*charge}")
else:
    print("It is free ride")
```

```
It is free ride
```

Case-3 : if-elif-else

In [ ]:
```
# I we have two conditions
# One condition refer to if block
# automatically second condition refer to else block

# what happens if we have 3 conditions are there
# then we will use elif

# always first condition under if block
# last condition under else block
# remaining all other conditions under elif block

# if <con1>:
    # st1
# elif <con2>:
   # st2
# else:
   # st3
```

```
c1   c2    c3   c4
if  elif elif else

c1   c2    c3   c4     c5
if   elif  elif  elif else
```

In [ ]:
```
# wap ask the user enter a number
# if number equal to 1 then print 1: if
# if number equal to 2 then print 2: elif
# if number equal to 3 then print 3: elif
# if number equal to 4 then print 4: elif
# other wise print bye: else

num = eval(input("enter a number"))
if num==1:
    print(f"{num} is mach")
elif num==2:
    print(f"{num} is mach")
elif num==3:
    print(f"{num} is mach")
elif num==4:
    print(f"{num} is mach")
else:
    print("number not mach")
```

In [ ]:
```
# wap ask the user
# enter marks percentage
# If percentage greater than 90 then print A grade
# If percentage between 70 and 90 then print B grade
# If percentage between 50 and 70 then print C grade
# If percentage between 35 and 50 then print D grade
# otherwise print fail
```

In [6]:
```
per=eval(input('enter percentage '))
if per>=90:
    print('A grade')
elif per>=70 and per<90:
    print('B grade')
elif per>=50 and per<70:
    print('C grade')
elif per>=35 and per<50:
    print('D grade')
else :
    print('fail')
```

```
B grade
```

In [8]:
```
per=eval(input('enter percentage '))
if per>=90:
    print('A grade')
elif per>=70 :
    print('B grade')
elif per>=50 :
    print('C grade')
elif per>=35 :
    print('D grade')
else :
    print('fail')
```

```
B grade
```

- when if condition failes then it checks next condition i.e.elif
- suppose elif also fails then it check next condition i.e. elif
- this chain reaction keeps on continue till the condition should satisfy

In [ ]:
```
# wap ask the user
# enter age
# If age greater than 90 then print lucky man
# If age between 70 and 90 then print old man
# If age between 50 and 70 then print SC
# If age between 35 and 50 then print Middile aged
# If age between 20 and 35 then print young
# If age between 13 and 20 then print teen
# otherwise print kid
```

In [13]:
```
age=eval(input('enter percentage '))
if age>=90:
    print('Lucky person')
elif age>=70 :
    print('OLD')
elif age>=50 :
    print('SC')
elif age>=35 :
    print('MA')
elif age>=20 :
    print('young')
elif age>=13 :
    print('teen')
else :
    print('kid')
```

```
Lucky person
```

In [ ]:
```
# add
# mul
# sub
# div based on conditions

# take two numbers
# num1 from keyboard
# num2 from keyboard

# enter the operation 1 for addition
# enter the operation 2 for mul
# enter the operation 3 for sub
# enter the operation 4 for div

# opertaion=ask the user enter opertaion from keyboard
# if operation equal to 1
#     perform the addition
# if operation equal to 2
#     perform the sub
# if operation equal to 3
#     perform the mul
# if operation equal to 4
#     perform the div
```

In [16]:
```
num1= eval(input("Enter the 1st num :"))
num2= eval(input("Enter the 2nd num :"))

print("Enter the operation 1 for addition")
print("Enter the operation 2 for subtraction")
print("Enter the operation 3 for multiplication")
print("Enter the operation 4 for division")

operation=eval(input("Enter the values between 1 to 4 :"))
if operation==1:
    add=num1+num2
    print(f"The sum is {add}")
elif operation==2:
    sub=num1-num2
    print(f"The subtraction is {sub}")
elif operation==3:
    mul=num1*num2
    print(f"The multiplication is {mul}")
elif operation==4:
    div=num1%num2
    print(f"The division is {div}")
else:
    print(f"not a valid operation")
```

```
Enter the operation 1 for addition
Enter the operation 2 for subtraction
Enter the operation 3 for multiplication
Enter the operation 4 for division
not a valid operation
```

In [15]:
```
num1= eval(input("Enter the 1st num :"))
num2= eval(input("Enter the 2nd num :"))

print("Enter the operation 1 for addition")
print("Enter the operation 2 for subtraction")
print("Enter the operation 3 for multiplication")
print("Enter the operation 4 for division")

operation=input("Enter the values between 1 to 4 :")
if operation=='1':
    add=num1+num2
    print(f"The sum is {add}")
elif operation=='2':
    sub=num1-num2
    print(f"The subtraction is {sub}")
elif operation=='3':
    mul=num1*num2
    print(f"The multiplication is {mul}")
elif operation=='4':
    div=num1%num2
    print(f"The division is {div}")
else:
    print(f"not a valid operation")
```

```
Enter the operation 1 for addition
Enter the operation 2 for subtraction
Enter the operation 3 for multiplication
Enter the operation 4 for division
The multiplication is 600
```

In [ ]:
```
# wap
# ask the user enter gender
# if gender equal to male
#     ask the user enter age
#     if age greater tha 30 then print middilaged men
#     otherwise print boy
# elif gender equal to female
#     ask the user enter age
#     if age greater tha 30 then print middilaged woman
#     otherwise print girl
# othrwise
#     print enter valid gender
```

In [ ]:
```
gender= input("enter the gender:")
if gender=='male':
    age=eval(input("enter the age:"))
    if age>=30:
        print("MAM")
    else:
        print("boy")
elif gender=='female':
    age=eval(input("enter the age:"))
    if age>=30:
        print("MAW")
    else:
        print("girl")
else:
    print('valid gender')
```

In [ ]:
```
# Wap ask the user enter gender
# If gender equal to female
#      id=ask the user id card is there or not  yes or no
#      if id card is there
#           print("enjoy the free ride")
#      else:
#          ask the user how much distance need to travel
#          ask the user enter charge per km
#          print total charge
# elif gender equal to male:
#          ask the user how much distance need to travel
#          ask the user enter charge per km
#          print total charge
# else
#     print valid gender
```

In [17]:
```
gender = (input("enter the gender : "))
if gender ==  'female':
    print("Enter yes if you have  ID CARD")
    print("Enter No if you dont have  ID CARD")
    id  = (input(" Enter Yes or No "))
    if  id == 'yes' :
        print("Enjoy Free Ride")
    else:
        dis = eval(input("how much distnace need to travel"))
        charge = eval(input("enter charge per km"))
        print(f"total charge is {dis*charge}")
elif gender ==  'male':
    dis = eval(input("how much distnace need to travel"))
```

```
    charge = eval(input("enter charge per km"))
    print(f"total charge is {dis*charge}")
else :
    print('enter valid gender')
```

```
Enter yes if you have  ID CARD
Enter No if you dont have  ID CARD
Enjoy Free Ride
```

In [19]:
```
gen=input('enter gender')
if gen=='female':
    id=input('do you have id card?')
    if id=='yes':
        print('enjoy free ride')
    else:
        km=eval(input('how many kms you want to travel?'))
        charge= 10
        print (f'amoun to be paid for travel is {km*charge}')
```

```
amoun to be paid for travel is 350
```

In [ ]:
```
# wap ask the user enter 3 numbers
# find the biggest numbers
```

In [21]:
```
gender= input("Enter the gender :")
if gender=='Female' or gender=='F': # USE or to add more abbreviations
    print("Do you have user ID :")
    id=input()
    if id=='Y':
        print(f"enjoy free ride")
    else:
        distance= eval(input("Enter the distance you want to travel :"))
        charge_per_km= eval(input("Enter the charge per km :"))
        total_charges=distance*charge_per_km
        print(f"total charges are {total_charges}")
elif gender=='Male':
    distance= eval(input("Enter the distance you want to travel :"))
    charge_per_km= eval(input("Enter the charge per km :"))
    total_charges=distance*charge_per_km
    print(f"total charges are {total_charges}")
else:
    print(f"not a valid gender")
```

```
not a valid gender
```

In [ ]:
```

```