CONTROL STATEMENTS

--> These are the statements, which are used to control the flow of execution
of program.

--> There are 2 types of control statements :
1) Conditional / Decisional statements.
2) Looping statements.

1) Conditional / Decisional statements :

--> It is a type of control statement which controls the flow of execution based on some condition/decision.

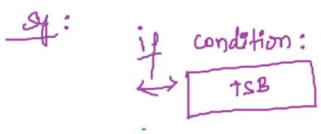
--> This again got classified into 4 types :
1) simple if
2) if else
3) elif
4) nested if

1) simple if statement :

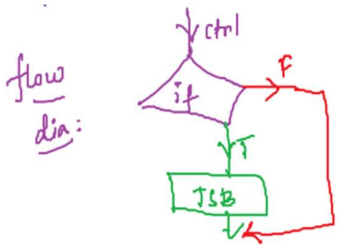
--> if is a keyword , which is used to check the condition.

--> if the entered condition is True then True Statement Block (TSB) will get executed,
if it is False then TSB will get ignored.

SYNTAX :



FLOW DIAGRAM :



#01) simple if

#01) WAP to check whether a candidate is eligible to vote

```
'''
age=int(input('Enter the age :'))
if age>=18:
    print('Elgibile')
print('verified')

#output :

Enter the age :20
Elgibile
verified

Enter the age :14
verified
'''
```

#02) WAP to check whether the given string has exactly 5 characters

```
'''
s=input('Enter the string :')
if len(s)==5:
    print('The given string has 5 characters')

#output :
Enter the string :hello
The given string has 5 characters
'''
#03) WAP to check whether the given integer is even
'''
n=int(input('Enter the integer :'))
if n%2==0:
    print('even')
#output :
Enter the integer :20
even
'''
```

#04) WAP to check whether the given integer is multiple of 3 and divisible by 5

```
'''
n=int(input('Enter the integer :'))
if n%3==0 and n%5==0:
    print('given integer is multiple of 3 and divisible by 5')


#output :

Enter the integer :15
given integer is multiple of 3 and divisible by 5
'''
```

#05) WAP to check whether the given integer is two digit

```
'''
n=abs(int(input('Enter the integer :')))
if 10<=n<=99:
    print('Two digit')

#output :

Enter the integer :-94
Two digit
'''
```

#06) WAP to check whether the given string is ending with 'a'

```
'''
s=input('Enter the string :')
if s[-1]=='a':
    print('given string is ending with a')

#output :
Enter the string :kerala
given string is ending with a
'''
```

#07) WAP to check whether the given character is lowercase alphabet

```
'''
ch=input('Enter the character :')
if 'a'<=ch<='z':
    print('given character is lowercase alphabet')

#output :

Enter the character :j
given character is lowercase alphabet
'''
```

#08) WAP to check whether the given character is vowel

```
'''
ch=input('Enter the character :')
if ch in 'AEIOUaeiou':
    print('vowel')

#output :

Enter the character :E
vowel
'''
```

#09) WAP to check whether the given data is float

```
'''
data=eval(input('Enter the data :'))
if type(data)==float:
    print('given data is float')

#output :

Enter the data :1.7
given data is float
'''
```

#10) WAP to print sum of two integers only if 2nd integer is greater than 1st

```
'''
a=int(input('Enter the first integer : '))
b=int(input('Enter the second integer : '))
if b>a:
    print(a+b)

#output :

Enter the first integer : 25
Enter the second integer : 40
65
'''
```

#11) WAP to check whether the given string is starting with digit and

```
#    ending with uppercase alphabet
'''
s=input('Enter the string :')
if '0'<=s[0]<='9' and s[-1].isupper():
    print('given string is starting with digit and ending with uppercase alphabet')

#output :

Enter the string :45RK
given string is starting with digit and ending with uppercase alphabet
'''
```

ASSIGNMENT QUESTIONS ON simple if :

01) WAP to check whether the given integer is odd number.

02) WAP to check whether the given character is uppercase.

03) WAP to check whether the last value of a list is mutable.

04) WAP to consider 2 integers and check whether both are divisible by 5

05) WAP to check whether the first and last character of string are same.

06) WAP to check whether the given data is dictionary

07) WAP to check whether the given data is default value.

if-else

```
#01) WAP to print square of given integer if it is even , else print
#    cube of integer if it is odd
'''
num=int(input('Enter the integer :'))
if num%2==0:
   print(f'The square of {num} is {num**2}')
else:
   print(f'The cube of {num} is {num**3}')

#output :

Enter the integer :6
The square of 6 is 36
'''
```

#02) WAP to check whether the given data is immutable or mutable

```
'''
val=eval(input('Enter the data :'))
if type(val) not in [list,set,dict]:
    print('Immutable')
else:
    print('Mutable')


#ouptut :

Enter the data :2.5
Immutable
'''
```

#03) WAP to check whether the given character is special character or not

```
'''
ch=input('Enter the charcater :')

if not(ch.isupper() or ch.islower() or ch.isdigit()):
    print(f'{ch} is special character ')
else:
    print(f'{ch} is not a special character ')

#output :

Enter the charcater :$
$ is special character
'''
```

```
#04) WAP to check whether the given string is palindrome or not
'''
s=input('Enter the string :')
if s==s[::-1]:
    print(f'{s} is palindrome')
else:
    print(f'{s} is not palindrome')

#output :

Enter the string :tenet
tenet is palindrome
'''

#05) consider two inputs and check whether both are pointing towards ,
#    same memory location or not
'''
a=eval(input('Enter the first value :'))
b=eval(input('Enter the second value :'))

if a is b:
    print('both are pointing to same memory location')
else:
    print('both are not pointing to same memory location')

#output :

Enter the first value :10
Enter the second value :10
both are pointing to same memory location
'''
```

#06) WAP to check whether the integer is positive or negative

```
'''
num=int(input('Enter the integer :'))
if num>=0:
    print('Positive number')
else:
    print('Negative number')

#output :
Enter the integer :-7
Negative number
'''
```

#07) WAP to check whether the given string is keyword or not

```
import keyword

s=input('Enter the string :')
if s in keyword.kwlist:
    print('keyword')
else:
    print('Not a keyword')

#output :

Enter the string :if
keyword

Enter the string :hello
Not a keyword
```

ASSIGNMENT QUESTIONS ON if else :

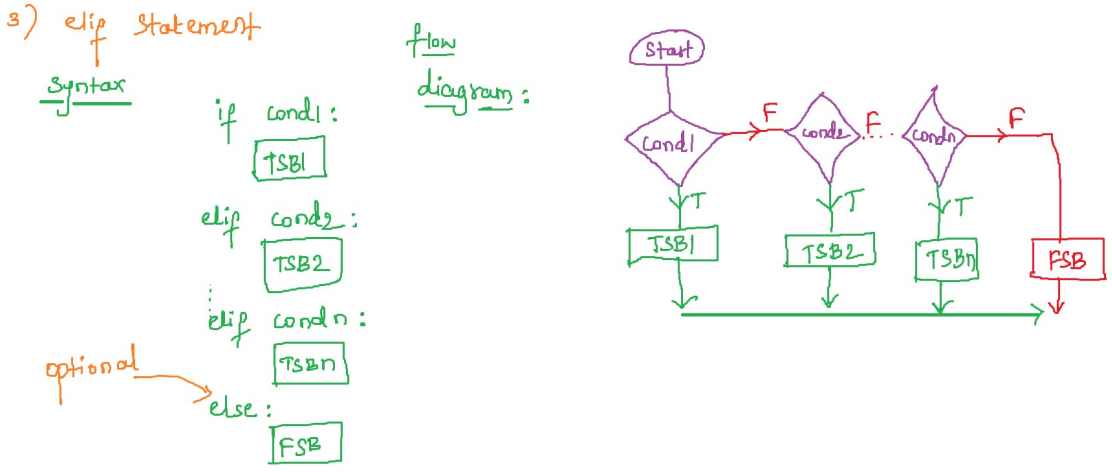
01) consider a string input and print the concatinated string of 1st and last character only if length
is more than 5 , else print the reverse of a string

02) WAP to check whether the given value is single value or not.

03) Consider a tuple of length 2 and check whether that tuple is homogenous or not.

04) consider a string input and check whether the ascci value of 1st character is even or not.

05) Consider a list input and print the values present at even index , if the length of that list is odd ,
else print the values present at odd index if the length is even .



PROGRAMS ON elif statement :---->
#01) WAP to check whether the entered character is uppercase,lowercase,digit or special character

```
'''
ch=input('Enter the character :')

if 'A'<=ch<='Z':
    print('Uppercase')
elif 'a'<=ch<='z':
    print('Lowercase')
elif '0'<=ch<='9':
    print('Digit')
else:
    print('Special character')

#output :
Enter the character :$
Special character
'''
```

#02) WAP to check whether the given integer is single / double / triple digit or more than that

```
'''
n=abs(int(input('Enter the integer :')))

if 0<=n<=9:
    print('single digit')
elif 10<=n<=99:
    print('double digit')
elif 100<=n<=999:
    print('triple digit')
else:
    print('more than that')

#output :
Enter the integer :-88
double digit
```

'''

#03) WAP to find the greatest of three integers

```
a=int(input('Enter the 1st integer :'))
b=int(input('Enter the 2nd integer :'))
c=int(input('Enter the 3rd integer :'))

if a>b and a>c:
    print(f'{a} is the greatest')
elif b>a and b>c:
    print(f'{b} is the greatest')
else:
    print(f'{c} is the greatest')
```

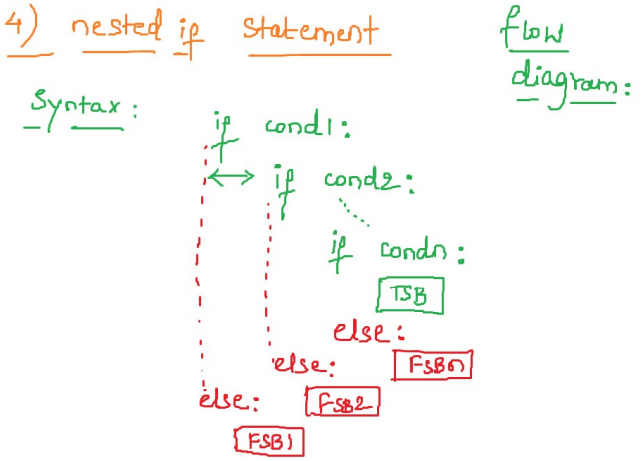
#output :

```
Enter the 1st integer :15
Enter the 2nd integer :29
Enter the 3rd integer :4
29 is the greatest
```

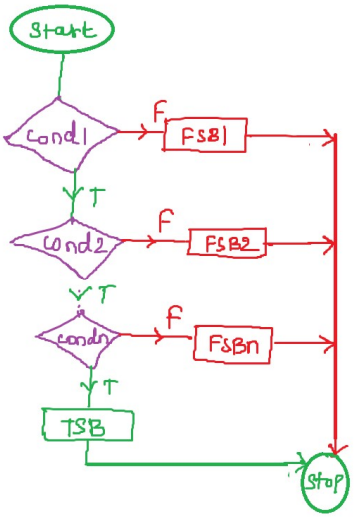
ASSIGNMENT QUESTIONS :

1) WAP to check whether the given points are lying in which quadrant.

2) Consider a character input , if it is uppercase print the 1st digit of it's ASCII value ,
if it is lowercase print the last digit of it's ASCII value and if it is a number then
print the reminder when it is divisible by 3 , else print the same character.



flow diagram :



#04) nested if

#01) WAP to print the middle value of list only if it is string

```
'''
L=eval(input('Enter the list :'))

if len(L)%2==1:
    mid=L[len(L)//2]
    if type(mid)==str:
        print(mid)
    else:
        print('middle value is not string')
else:
    print('given list does not have middle value')

#output :

Enter the list :[10,'ok',2.5]
ok
'''
```

#02) WAP to check whether the character is vowel or consonant

```
'''
ch=input('Enter the character :')
```

```
if 'A'<=ch<='Z' or 'a'<=ch<='z':
    if ch in 'AEIOUaeiou':
        print('vowel')
    else:
        print('consonant')
else:
    print('given character is not an alphabet')


#output :

Enter the character :P
consonant
'''

#03) WAP to print the value as it is only if length of that value is even
'''
val=eval(input('Enter the value :'))
if type(val) in [str,list,tuple,set,dict]:
    if len(val)%2==0:
        print(val)
    else:
        print('length of given value is not even')
else:
    print('given value is not collection')

#output :

Enter the value :[1,2]
[1, 2]
'''
#ASSIGNMENT QUESTION

#04) WAP to print first value of tuple , only if it is palindrome string
#    having length greater than 5

#05) WAP to find the greatest of 4 integers
```

```
#nested if (part 2)

#04) WAP to print first value of tuple , only if it is palindrome string
#    having length greater than 5
'''
t=eval(input('Enter the tuple :'))
if type(t[0])==str:
    if t[0]==t[0][::-1]:
        if len(t[0])>5:
            print(t[0])
        else:
            print('length of palindrome string is not greater than 5')
    else:
        print('string is not palindrome')
else:
    print('first value of tuple is not a string')


#output :

Enter the tuple :('abcdcba',55,9.9)
abcdcba
'''


#05) WAP to find the greatest of 4 integers
'''
a=int(input('Enter the 1st integer :'))
b=int(input('Enter the 2nd integer :'))
c=int(input('Enter the 3rd integer :'))
d=int(input('Enter the 4th integer :'))

if a>b:
    if a>c:
        if a>d:
            print(f'{a} is the greatest')
        else:
```

```
            print(f'{d} is the greatest')
    else:
        if c>d:
            print(f'{c} is the greatest')
        else:
            print(f'{d} is the greatest')
else:
    if b>c:
        if b>d:
            print(f'{b} is the greatest')
        else:
            print(f'{d} is the greatest')
    else:
        if c>d:
            print(f'{c} is the greatest')
        else:
            print(f'{d} is the greatest')

#output :

Enter the 1st integer :10
Enter the 2nd integer :7
Enter the 3rd integer :6
Enter the 4th integer :55
55 is the greatest

'''

#06) WAP to find 2nd largest number among four numbers
'''
a=int(input('Enter the 1st integer :'))
b=int(input('Enter the 2nd integer :'))
c=int(input('Enter the 3rd integer :'))
d=int(input('Enter the 4th integer :'))


if a>b and a>c and a>d:
```

```
    if b>c and b>d:
        print(f'{b} is 2nd largest number')
    elif c>b and c>d:
        print(f'{c} is 2nd largest number')
    else:
        print(f'{d} is 2nd largest number')

elif b>a and b>c and b>d:
    if a>c and a>d:
        print(f'{a} is 2nd largest number')
    elif c>a and c>d:
        print(f'{c} is 2nd largest number')
    else:
        print(f'{d} is 2nd largest number')

elif c>a and c>b and c>d:
    if a>b and a>d:
        print(f'{a} is 2nd largest number')
    elif b>a and b>d:
        print(f'{b} is 2nd largest number')
    else:
        print(f'{d} is 2nd largest number')

else:
    if a>b and a>c:
        print(f'{a} is 2nd largest number')
    elif b>a and b>c:
        print(f'{b} is 2nd largest number')
    else:
        print(f'{c} is 2nd largest number')

#output :
Enter the 1st integer :8
Enter the 2nd integer :5
Enter the 3rd integer :6
Enter the 4th integer :9
8 is 2nd largest numbe
```

```
#07) WAP to print all the values present at even index of a tuple ,
#    if the length of tuple is odd and having first value as integer
'''
t=eval(input('Enter the tuple :'))
if len(t)%2==1:
    if type(t[0])==int:
        print(t[::2])
    else:
        print('first value of tuple is not an integer')
else:
    print('length of tuple is even')

#output :

Enter the tuple :(10,2.5,'hi')
(10, 'hi')
'''

#08) WAP to print ASCII value of last character of string , only if that
#    ASCII value is even , palindrome and greater than 70
'''
s=input('Enter the string :')
x=ord(s[-1])

if x%2==0:
    if str(x)==str(x)[::-1]:
        if x>70:
            print(x)
        else:
            print('ASCII value is not greater than 70')
    else:
        print('ASCII value is not palindrome')
else:
    print('ASCII value is odd')

#output:
```

Enter the string :mr.X
88
'''
#ASSIGNMENT QUESTIONS

#09) WAP to print last value of list , only if it is palindrome string, starting with vowel.

#10) WAP to print reversed string , only if it is starting with vowel , ending with consonant,
and it should contain middle value