**Conditional Handling:**

* If
* If else
* el-if ladder
* nested if else

**if:** if is used to decide whether a certain statement or block or statements will be executed or not i.e if a certain condition is true then a block of statement is executed otherwise not

**syntax:**

if condition:

statement 1

statement 2

statement 3

statement 4

**Ex1:**

a=20

b=10

if a>b:

print(“a is greater”)

output: a is greater

**Ex2:**

a=int(input())

if a%2 == 0:

print(“even number”)

input: 4

output: even number

**if else:** in the case of simple if it is possible to represent what is the action needs to be done if the condition is true. But there is no option to specify what action needs to be done. If the condition is false, in if-else text expression is true if block will get execute otherwise else part will get execute.

**Syntax:**

If test expression:

Body of if

else:

body of else

Program:

**Ex1:**

a=int(input())

b=int(input())

if a==b:

print(“both are equal”)

else:

print(“both are different”)

input: 2,5

output: 5 both are different

**Ex2:**

a=int(input())

if a%2 == 0:

print(“() is even”.format(a))

else:

print(“{} is odd”.format(a))

input: 4

output: 4 is even

**elseif ladder:** to test the sequence of condition elif ladder is useful. The test expression is false in the case of it, then only it moves to the elif statement otherwise body of if block will get executed. If in case all the text expressions get failed then the by default else part will get execute.

**Syntax:**

If test expression:

Body of if

elif test expression:

body of elif

else:

body of else

Program:

**Ex1:**

a=int(input())

b=int(input())

if a==b:

print(“both are equal”)

elif a>b:

print(“a is greater”)

else:

print(“b is greater”)

input: 5,5

output: Both are equal

input: 4,2

output: a is greater

**Ex2:**

a=int(input())

b=int(input())

c=int(input())

if a==b and a==c:

print(“all are equal”)

elif a>b and a>c:

print(“a is greater”)

elif b>c:

print(“b is greater”)

else:

print(“c is greater”)

input: 4,6,8 output: c is greater

input: 7,7,7 output: all are equal

**Nested if:** writing if inside of other if statements. If the condition is true inside we will test other condition also

**Syntax:**

If condition:

If condition:

Statements

Else:

Statements

else:

if condition:

statements

else:

statements

Program: to storing of three numbers:

**Ex:**

a=int(input())

b=int(input())

c=int(input())

if a>b and a>c:

if b>c:

print(c,b,a)

else:

print(c,a,b)

elif b>c:

if a>c:

print(c,a,b)

else:

print(a,c,b)

else:

if a>b:

print(b,a,c)

else:

print(a,b,c)

input: 5,3,7

output: 3,5,7

short hand if-else statement:

a=20

b=10

print(a) if a>b else print(b)

output: 20

**Control Statements:**

**break statement**: break statement is used to terminate the loop before the ending the sequence . it brings control out of the loop.

**Ex:**

for i in range(1,10):

if i==5:

break

print( i , end=’ ‘)

output: 1, 2, 3, 4

**continue statement:** if returns the control to the beginning of the loop.

For I in range(1,10):

If i%2 == 0 or i%3==0:

continue

print( i , end=’ ‘)

output: 5, 3, 7