1.while loop

With the while loop we can execute a set of statements as long as a condition is true.

In [1]:

```
i=1
while(i<10):
    print("welcome")
    i=i+1
```

```
welcome
welcome
welcome
welcome
welcome
welcome
welcome
welcome
welcome
```

In [2]:

```
i=5
while(i>0):
    print("this world is beautifull",i)
    i=i-1
```

```
this world is beautifull 5
this world is beautifull 4
this world is beautifull 3
this world is beautifull 2
this world is beautifull 1
```

2.for loop

For loop is used for iterating over a sequence (that is either a list, a tuple, a dictionary, a set, or a string).

In [3]:

```
x=["jigar","khushbu","rasila","vijya"]
for i in (x):
    print(i,",Hi welcome to my party.")
```

```
jigar ,Hi welcome to my party.
khushbu ,Hi welcome to my party.
rasila ,Hi welcome to my party.
vijya ,Hi welcome to my party.
```

In [4]:

```
for i in range(1,20,2):
    print(i)
```

```
1
3
5
7
9
11
13
15
17
19
```

3.if else

The if else statement is used in Python for decision making between two conditions.

In [5]:

```
num=int(input("enter the num"))
if(num%2==0):
    print(num,"is even number")
else:
    print(num,"is odd number")
```

```
enter the num3
3 is odd number
```

In [9]:

```
x=int(input("enter number"))

if x%2==0:
        print(x,"is not prime number")
else:
        print(x, "is prime number")
```

```
enter number17
17 is prime number
```

4.if elif else

The if elif else statement is used in Python for decision making.

In [10]:

```
a=int(input("enter a :"))
b=int(input("enter b :"))
if (a<b):
    print("a is less than b")
elif(a>b):
    print("a is greter than b")
else:
    print("a is eqal to b")
```

```
enter a :5
enter b :5
a is eqal to b
```

In [12]:

```
a=int(input("enter the marks :"))
if (0<a<=60):
    print("Week student")
elif (60<a<=80):
    print("Average student")
else:
    print("Brilliant student")
```

```
enter the marks :90
Brilliant student
```

5.User define function without for loop if loop

Function which is make by user for some specific task is called user define function.

In [13]:

```
def square(n):
    return (n*n)
square(20)
```

Out[13]:

```
400
```

In [15]:

```
def function(name):
  print("hii ",name,"welcome")

function("khushbu")
```

```
hii  khushbu welcome
```

6.User define function with for loop

In [5]:

```
def money_bank(money):
    total_money=0
    for i in range(1,366):
        total_money=money+total_money
        print("number of money i have on day ",i," is" ,total_money)
print("save money")

money_bank(1000)
```

```
save money
number of money i have on day  1  is 1000
number of money i have on day  2  is 2000
number of money i have on day  3  is 3000
number of money i have on day  4  is 4000
number of money i have on day  5  is 5000
number of money i have on day  6  is 6000
number of money i have on day  7  is 7000
number of money i have on day  8  is 8000
number of money i have on day  9  is 9000
number of money i have on day  10  is 10000
number of money i have on day  11  is 11000
number of money i have on day  12  is 12000
number of money i have on day  13  is 13000
number of money i have on day  14  is 14000
number of money i have on day  15  is 15000
number of money i have on day  16  is 16000
number of money i have on day  17  is 17000
number of money i have on day  18  is 18000
```

7.User define function with for loop ifloop

User define function makes task easy with help of for and if statment.

In [1]:

```
def num(a):
    for i in range(11):
        if (i==0):
            continue
        print(a ,'*',i,'=',a*i)

num(9)
```

```
9 * 1 = 9
9 * 2 = 18
9 * 3 = 27
9 * 4 = 36
9 * 5 = 45
9 * 6 = 54
9 * 7 = 63
9 * 8 = 72
9 * 9 = 81
9 * 10 = 90
```

8.break

Break statement stops the loop in which the statement is placed.

In [2]:

```
for i in range(0,30):
    if (i==3):
        break
    print(i)
```

```
0
1
2
```

In [3]:

```
list=["rasila","vijaya","samarth","khushbu","jigar"]
for i in list:
    if (i=="khushbu"):
        break
    print(i)
```

```
rasila
vijaya
samarth
```

9.continue

Continue statement in Python returns the control to the beginning of the while loop

In [1]:

```
for i in range(1,50):
    if (i%5==0):
        continue
    print(i)
```

```
1
2
3
4
6
7
8
9
11
12
13
14
16
17
18
19
21
22
23
24
26
27
28
29
31
32
33
34
36
37
38
39
41
42
43
44
46
47
48
49
```

In [4]:

```
list=["breads",'vegetables','staples','groceries','juice ']
for i in list:
    if(i=='groceries'):
        continue
    print(i)
```

```
breads
vegetables
staples
juice
```

10.for loop with in oprator

The In is operator in Python that will return True if the expression is True.

In [16]:

```
for i in range(10,0,-1):
    print(i)
```

```
10
9
8
7
6
5
4
3
2
1
```

In [17]:

```
list=["tomato","cauliflower","oats","spinich"]
for i in list:
    print("purchase",i)
```

```
purchase tomato
purchase cauliflower
purchase oats
purchase spinich
```

11.for loop with if statment

for statement is used in Python with if statment for decision making and control the flow.

In [3]:

```
for i in range(2):
    password=(input("Enter the password:"))
    if password=="chauhan":
        print("welcome")
        break
    else:
        print("you enter wrong password ")
```

```
Enter the password:chauhan
welcome
```

In [ ]:

```
for i in range(3):
    i=int(input("Enter number"))
    if i>=10:
        print("Number is greter than 10")
    else:
        print("Number is less than 10")
```

12.for loop with not in oprator

The not is a Logical operator in Python that will return True if the expression is False.

In [3]:

```
a=10
b=50
print("We are printing prime number between {} and {}".format(a,b))
for i in range(a,b+1):
    if a>1:
        indivisable=False
        for j in range(2,i):
            if i%2==0:
                indivisable=True
        if not indivisable:
            print(i)
```

```
We are printing prime number between 10 and 50
11
13
15
17
19
21
23
25
27
29
31
33
35
37
39
41
43
45
47
49
```

In [6]:

```
def fib(num):
    a=1
    b=1
    if (num==1):
        print(a)
    elif (num!=1):
        for i in range(2,num):
            c=a+b
            a=b
            b=c
            print(c)


fib(10)
```

```
2
3
5
8
13
21
34
55
```

13.if with in oprator

When the specified value is found inside the sequence, the statement returns True. Whereas when it is not found, we get a False.

In [4]:

```
list=["khushbu","samarth","seema","niksha"]
name=input("enter name:")
if name in list:
    print("Hey, Welcome to amazon",name)
```

```
enter name:khushbu
Hey, Welcome to amazon khushbu
```

In [8]:

```
num=int(input("enter the number:"))
bucket=[1,3,5,7,9,4,2,3]
if num in bucket:
    print(num,"Num is in bucket")
```

```
enter the number:5
5 Num is in bucket
```

14.if with not in oprator

When used in not a condition. the statement returns a Boolean result evaluating

into either True OR False.

In [10]:

```
age=int(input("Enter the age:"))
if not age<18:
    print("Valid")
```

```
Enter the age:24
Valid
```

In [12]:

```
list=["khushbu","jigar","rasila"]
if not "Vijya" in list:
    print("Vijya is not in list")
```

```
Vijya is not in list
```