



In [1]:

```
print("ds")
print("ds")
print("ds")
print("ds")
print("ds")
```

```
ds
ds
ds
ds
ds
```

Loops

- There may be a situation when you need to execute a block of code several number of times.
- Loop == Repeat the block of code

While Loop

- Repeat the block of code until the condition satisfies
- to iterate over a block of code as long as the condition is true

In [2]:



```
x=1

while x<=5:
    print("ds")
    x=x+1
```

```
ds
ds
ds
ds
ds
```

In [3]:



```
x=1

while x<=5:
    print(x,"ds")
    x=x+1
```

```
1 ds
2 ds
3 ds
4 ds
5 ds
```



In [4]:

```
x=8

while x >= 6:
    print(x)
    x=x-1
```

8
7
6

In [5]:

```
x=0

while x < 5:
    x=x+3

print(x)
```

6

In [6]:

```
i=0
while i<=100:
    print(i,end=" ")
    i=i+1
```

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52
53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77
78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

In [7]:

```
i=0

l=[]

while i<=100:
    l.append(i)
    i=i+1

print(l)
```

[0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20,
21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 3
9, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57,
58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 7
6, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94,
95, 96, 97, 98, 99, 100]

Ask the user to enter any 3 values & save the into a list



In [8]:

```
i=1
l=[]
while i<=3:
    n = int(input("Enter the number:"))
    l.append(n)
    i=i+1
print(l)
```

Enter the number:12
Enter the number:16
Enter the number:17
[12, 16, 17]

Ask the user to enter any 5 values & identify the largest number

In [9]:

```
i=1
l=[]
while i<=5:
    n = int(input("Enter the number:"))
    l.append(n)
    i=i+1
l.sort()
print("the largest value is:",l[-1])
```

Enter the number:12
Enter the number:5
Enter the number:99
Enter the number:14
Enter the number:29
the largest value is: 99

Ask the user to enter any 5 values & do sum of it



In [10]:

```
x=1
s=0
while x<=5:
    i = int(input("enter the number:"))
    s =s+i
    x=x+1

print("the sum is:",s)
```

```
enter the number:12
enter the number:17
enter the number:21
enter the number:35
enter the number:15
the sum is: 100
```

Ask the user to enter any 5 values & do product of it

In [11]:

```
x=1
p=1
while x<=5:
    i = int(input("enter the number:"))
    p =p*i
    x=x+1

print("the product is",p)
```

```
enter the number:1
enter the number:6
enter the number:2
enter the number:5
enter the number:4
the product is 240
```

Infinite Loop

In []:

```
x=1

while x<=5:
    print(x)
```



Infinite loop with break

In [12]:

```
x=1

while True:
    print(x,"ds")
    if x>=5:
        break
    x=x+1
```

```
1 ds
2 ds
3 ds
4 ds
5 ds
```

Ask the user to enter any number of values & do sum of it

In [13]:

```
print("after your entiries are completed, enter #")

sum=0
while True:
    a = input("enter the number")
    if a=="#":
        break
    sum=sum+int(a)

print(sum)
```

```
after your entiries are completed, enter #
enter the number44
enter the number46
enter the number12
enter the number38
enter the number10
enter the number#
150
```

while Loop with else

- The else part is executed if the condition in the while loop evaluates to False. The while loop can be terminated with a break statement.
- In such case, the else part is ignored. Hence, a while loop's else part runs if no break occurs and the condition is false.



In [14]:

```
i=1

while i<=3:
    print(i)
    i=i+1
    if i==1:
        break
else:
    print("ds")
```

```
1
2
3
ds
```

In [15]:

```
numbers = [1, 2, 3, 4, 5 ,6]

i = 0

while i <= len(numbers):
    print(i)
    i = i+1
    if i==3:
        break
else:
    print("no item left in the list")
```

```
0
1
2
```