Unit - 5

While Loop

```
In [5]: """ take the number from the user and print all the numbers in between 1 to th
        n = int(input(" Enter the number"))
        i = 1
        while i<=n:
            print(i)
            i = i+1
        print("yes it is done")
```

```
 Enter the number10
1
2
3
4
5
6
7
8
9
10
yes it is done
```

```
In [6]: """ enter the value and write its multiplication table till 10"""
        x = int(input("enter the value"))
        i = 1
        while i<=10:
            print(x*i)
            i=i+1
        print("this is the mulplication table")
```

```
enter the value12
12
24
36
48
60
72
84
96
108
120
this is the mulplication table
```

In [8]:
```python
""" TAKE A NUMBER FROM THE USER AND PRINT ITS EXPONENTIAL VAlUE TILL POWER 5"""
x=int(input("enter a value"))
i=1
while i<=5:
    print(x**i)
    i=i+1
print("these are the exponential values")
```

```
enter a value6
6
36
216
1296
7776
these are the exponential values
```

In [ ]:
```python
""" wnter a value and find out the even numbers in between that """
```

In [ ]:
```python
a = int(input("enter the value"))
i=1
while i<=a:
    if i%2==0:
        print(i)
    else:
```

while and if

In [3]:
```python
a= int(input(" kindly enter the value"))
i = 1
while i<=a:
    if i%2==0:
        print(i)
    else:
        pass
    i=i+1
```

```
 kindly enter the value10
2
4
6
8
10
```

```
In [10]: x = int(input("enter the number of rows"))
         i = 1
         while i<=x:
             j=1
             while j<=i:
                 print("$*%", end = " ")
                 j = j+1
             print()
             i = i+1
```

```
enter the number of rows10
$*%
$*% $*%
$*% $*% $*%
$*% $*% $*% $*%
$*% $*% $*% $*% $*%
$*% $*% $*% $*% $*% $*%
$*% $*% $*% $*% $*% $*% $*%
$*% $*% $*% $*% $*% $*% $*% $*%
$*% $*% $*% $*% $*% $*% $*% $*% $*%
$*% $*% $*% $*% $*% $*% $*% $*% $*% $*%
```

```
In [3]: n = int(input("enter the number of rows"))
        i = 1
        while i<=n:
            j=n
            while j>=i:
                print("%*$", end = " ")
                j =j-1
            print()
            i = i+1
```

```
enter the number of rows15
%*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$ %*$
%*$ %*$ %*$ %*$
%*$ %*$ %*$
%*$ %*$
%*$
```

Break statement

```
In [5]: n = 10
        i =1
        while True:
            if i%9==0:
                print("inside if")
                break
            else:
                print("inside else")
                i=i+1
        print("done")
```

```
inside else
inside else
inside else
inside else
inside else
inside else
inside else
inside else
inside if
done
```

```
In [6]: """ enter the value till number 10 """
        n = 10
        i = 1
        while i<=10:
            print(i)
            i =i+1
            if i==11:
                break
        print("done")
```

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

Continue statement

```
In [7]: n = 10
        i=1
        while True:
            if i%9!=0:
                print("inside if")
                i=i+1
                continue
            print("somethinng")
            print("something else")
            break
        print("done")
```

```
inside if
inside if
inside if
inside if
inside if
inside if
inside if
inside if
somethinng
something else
done
```

```
In [11]: """ write a program to print a series of 22,222,2222,22222,222222 till the bva
         n = int(input("enter the value"))
         i=1
         p=2
         while i<=n:
             p=(p*10)+2
             print(p)
             i=i+1
             continue
             print("this is the series")
             break
         print("done")
```

```
enter the value50
22
222
2222
22222
222222
2222222
22222222
222222222
2222222222
22222222222
222222222222
2222222222222
22222222222222
222222222222222
2222222222222222
22222222222222222
222222222222222222
2222222222222222222
22222222222222222222
222222222222222222222
2222222222222222222222
22222222222222222222222
222222222222222222222222
2222222222222222222222222
22222222222222222222222222
222222222222222222222222222
2222222222222222222222222222
22222222222222222222222222222
222222222222222222222222222222
2222222222222222222222222222222
22222222222222222222222222222222
222222222222222222222222222222222
2222222222222222222222222222222222
22222222222222222222222222222222222
222222222222222222222222222222222222
2222222222222222222222222222222222222
22222222222222222222222222222222222222
222222222222222222222222222222222222222
2222222222222222222222222222222222222222
22222222222222222222222222222222222222222
222222222222222222222222222222222222222222
2222222222222222222222222222222222222222222
22222222222222222222222222222222222222222222
222222222222222222222222222222222222222222222
2222222222222222222222222222222222222222222222
22222222222222222222222222222222222222222222222
222222222222222222222222222222222222222222222222
2222222222222222222222222222222222222222222222222
22222222222222222222222222222222222222222222222222
done
```

for loop in python

In [12]:
```python
""" write a program and to print the square of the number till 10"""

L = []
for i in range(10):
    print(i+1)
    L.append(i**2)
print(L)
```

```
1
2
3
4
5
6
7
8
9
10
[0, 1, 4, 9, 16, 25, 36, 49, 64, 81]
```

```
In [15]: L = []
         for i in range(0,100,3):
             print(i+1)
             L.append(i**2)
         print(L)
```

```
1
4
7
10
13
16
19
22
25
28
31
34
37
40
43
46
49
52
55
58
61
64
67
70
73
76
79
82
85
88
91
94
97
100
[0, 9, 36, 81, 144, 225, 324, 441, 576, 729, 900, 1089, 1296, 1521, 1764, 202
5, 2304, 2601, 2916, 3249, 3600, 3969, 4356, 4761, 5184, 5625, 6084, 6561, 70
56, 7569, 8100, 8649, 9216, 9801]
```

```
In [18]:  """ write a program to separate positive and negative integers from the list"""
          L = [24,-15,89,12,36,-85,-2,-9,-31,32,14]
          L1=[]
          L2=[]
          for i in range(11):
              if L[i]>=0:
                  L1.append(L[i])
              else :
                  L2.append(L[i])
          print(" the list of positive numbers are",L1)
          print("the list of negative number are", L2)
```

```
 the list of positive numbers are [24, 89, 12, 36, 32, 14]
the list of negative number are [-15, -85, -2, -9, -31]
```

```
In [19]:  """ write a program to sepatae the evena and odd number in the list"""
          L = [24,29,31,36,84,75,79,82,56,14,37]
          L3=[]
          L4=[]
          for i in range(11):
              if L[i]%2==0:
                  L3.append(L[i])
              else:
                  L4.append(L[i])
          print(L3)
          print(L4)
```

```
[24, 36, 84, 82, 56, 14]
[29, 31, 75, 79, 37]
```

```
# S = {"apple", 2.56, "pen"}
for x in S:
    print(x)
else:
    print("loop terminated")
print('DONE')
```

```
In [21]:  D = {"A": 45, "B" : 78 , 77:" C"}
          for x in D:
              print(x, D[x])
```

```
A 45
B 78
77  C
```

Nesting of for loop

```python
In [26]: """ ask a user to enter a string and filter count vowels in the string"""
         L =[]
         p = input("enter the string")
         for i in range(len(p)):
             L.append(p[i])
         print(L)
         count = 0
         for i in range(len(L)):
             if L[i] =="a":
                 print("a vowel is in the string")
                 count=count+1
                 print(count)

         for i in range(len(L)):
             if L[i] =="i":
                 print("i vowel is in the string")
                 count=count+1
                 print(count)

         for i in range(len(L)):
             if L[i] =="o":
                 print("o vowel is in the string")
                 count=count+1
                 print(count)

         for i in range(len(L)):
             if L[i] =="u":
                 print("u vowel is in the string")
                 count=count+1
                 print(count)

         for i in range(len(L)):
             if L[i] =="e":
                 print("e vowel is in the string")
                 count=count+1
                 print(count)
```

```
enter the stringi am learning data science and i am enjoying python also
['i', ' ', 'a', 'm', ' ', 'l', 'e', 'a', 'r', 'n', 'i', 'n', 'g', ' ', 'd',
'a', 't', 'a', ' ', 's', 'c', 'i', 'e', 'n', 'c', 'e', ' ', 'a', 'n', 'd', '
', 'i', ' ', 'a', 'm', ' ', 'e', 'n', 'j', 'o', 'y', 'i', 'n', 'g', ' ', 'p',
'y', 't', 'h', 'o', 'n', ' ', 'a', 'l', 's', 'o']
a vowel is in the string
1
a vowel is in the string
2
a vowel is in the string
3
a vowel is in the string
4
a vowel is in the string
5
a vowel is in the string
6
a vowel is in the string
7
i vowel is in the string
8
i vowel is in the string
9
i vowel is in the string
10
i vowel is in the string
11
i vowel is in the string
12
o vowel is in the string
13
o vowel is in the string
14
o vowel is in the string
15
e vowel is in the string
16
e vowel is in the string
17
e vowel is in the string
18
e vowel is in the string
19
```

In [ ]: