Loop

In [1]:
```
# Print 10 numbers
i=1
while i<=10:
    print(i)
    i=i+1
```

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

In [2]:
```
# Sum of 10 numbers
i=1
sum=0
while i<=10:
    sum=sum+i
    i=i+1
print(sum)
```

```
55
```

In [3]:
```
# Multiplication Table of 2
i=1
Prod=2
while i<=10:
    Prod=i*2
    print("2","*",i,"=",Prod)
    i=i+1
```

```
2 * 1 = 2
2 * 2 = 4
2 * 3 = 6
2 * 4 = 8
2 * 5 = 10
2 * 6 = 12
2 * 7 = 14
2 * 8 = 16
2 * 9 = 18
2 * 10 = 20
```

In [4]:
```
# Multiplication Table
i=1
Prod=int(input("Enter the number "))
n=Prod
while i<=10:
    Prod=i*n
    print(n,"*",i,"=",Prod)
    i=i+1
```

```
Enter the number 7
7 * 1 = 7
7 * 2 = 14
7 * 3 = 21
7 * 4 = 28
7 * 5 = 35
7 * 6 = 42
7 * 7 = 49
7 * 8 = 56
7 * 9 = 63
7 * 10 = 70
```

In [5]:
```
# Even numbers from 1 to 10
i=1
while i<=10:
    if i%2==0:
        print(i)
    i=i+1
```

```
2
4
6
8
10
```

In [27]:
```
# Power of number using while loop
a=int(input("Enter the base"))
b=int(input("Enter the exponent"))
c=1
while b!=0:
    c=a*c
    b=b-1
else:
 print(c)
```

```
Enter the base2
Enter the exponent3
8
```

In [6]:
```
# Factorial of a Number
i=int(input("Enter the number "))
Factorial=i
i=i-1
while i!=0:
    Factorial=Factorial*i
    i=i-1
print(Factorial)
```

```
Enter the number 6
720
```

In [7]:
```
# If n=5, print 12345
number=int(input("Enter the number "))
i=1
while i<=number:
    print(i,end="")
    i=i+1
```

```
Enter the number 7
1234567
```

For Loop

In [8]:
```
# Print 0 to 9 using For Loop
for i in range(10):
    print(i)
```

```
0
1
2
3
4
5
6
7
8
9
```

In [9]:
```
# Print Hello 10 times
for i in range(10):
    print("Hello")
```

```
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
Hello
```

In [10]:
```
# Sum of 1 to 10 Using For Loop
sum=0
for i in range(11):
    sum=sum+i
print(sum)
```

```
55
```

In [11]:
```
# Reverse of a 3 digit number
num=int(input("Enter the number to be reversed "))
rev=0
while num>0:
    rem=num%10
    rev=(rev*10)+rem
    num=num//10
print(rev)
```

```
Enter the number to be reversed 567
765
```

In [12]:
```
# Sum of a Number and its Reverse
num=int(input("Enter the number to be reversed:"))
rev=0
temp=num
while num>0:
    rem=num%10
    rev=(rev*10)+rem
    num=num//10
print("Reversed number is:",rev)
print(temp,"+",rev,"=",temp+rev)
```

```
Enter the number to be reversed:1234
Reversed number is: 4321
1234 + 4321 = 5555
```

In [13]:
```
# Armstrong Number
Number=int(input("Enter the number "))
string=str(Number)
i=len(string)
Armstrong=0
Temp=Number
while Temp>0:
    Digit=Temp%10
    Armstrong=(Digit**i)+Armstrong
    Temp=Temp//10
if Number==Armstrong:
    print("Number is Armstong")
else:
    print("Number is not Armstrong")
```

```
Enter the number 153
Number is Armstong
```

In [14]:
```
# Palindrome
num=int(input("Enter the number: "))
rev=0
temp=num
while num>0:
    rem=num%10
    rev=rev*10+rem
    num=num//10
print("The reversed number is:",rev)
if temp==rev:
    print("It is a palindrome")
else:
    print("It is not a palindrome")
```

```
Enter the number: 1881
The reversed number is: 1881
It is a palindrome
```

In [15]:
```
# Fibonacci Sequence
n=int(input("Enter the range: "))
a=0
b=1
sum=0
for i in range(n):
    print(sum)
    a=b
    b=sum
    sum=a+b
```

```
Enter the range: 10
0
1
1
2
3
5
8
13
21
34
```

In [18]:
```
# Check if a given number is prime or not
n=int(input("Enter the number: "))
flag=0
if n>1:
    for i in range(2,n):
        if n%i==0:
            flag=1
            break
if flag==0:
    print("Prime number")
else:
    print("Not prime number")
```

```
Enter the number: 11
Prime number
```

Nested Loop

In [ ]:
```
# Pyramid
for i in range(1,6):        # Outer loop
    for j in range(i):    # Inner loop
        print("*",end="")
    print()
```

In [19]:
```
# Upper Case Letter Pyramid
for i in range(1,5):                    # Outer loop
    for j in range(i):                  # Inner loop
        print(chr(65+j),end="")       # 65 is the ASCII for upper case
    print()
```

```
A
AB
ABC
ABCD
```

In [20]:
```
# Lower Case Letter Pyramid
for i in range(1,5):              # Outer loop
    for j in range(i):            # Inner loop
        print(chr(97+j),end="") # 97- ASCII for lower case
    print()
```

```
a
ab
abc
abcd
```

In [21]:
```
# Upside Down Number Pyramid
for i in range(5):          # Outer loop
    for j in range(5-i):    # Inner loop
        print(5-i,end="")
    print()
```

```
55555
4444
333
22
1
```

In [22]:
```
# Upside Down Number (012345) Pyramid
for i in range(6):          # Outer loop
    for j in range(6-i):    # Inner loop
        print(j,end="")
    print()
```

```
012345
01234
0123
012
01
0
```

In [23]:
```
# Function of print()
print("Anza")
print()    # Prints a blank line
print("Ummer")
```

```
Anza

Ummer
```

Continue

In [25]:
```
# Program to print from 0 to 9 except 5
for i in range(10):
    if i==5:
        continue
    else:
        print(i)
```

```
0
1
2
3
4
6
7
8
9
```

For Loop with Else

In [24]:
```
for i in range(10):
    print(i)
else:
    print("Condition completed")
```

```
0
1
2
3
4
5
6
7
8
9
Condition completed
```