In [1]:

```
for x in range(6):
    print(x)
```

```
0
1
2
3
4
5
```

In [2]:

```
for x in range(3,8,2): #range(start,end,step size)
    print(x)
```

```
3
5
7
```

sum and average of first n natural number

In [3]:

```
n = 10
sum = 0
for num in range(0,n+1,1):
    sum = sum + num #sum+=num
print('sum of first',n,'number is :',sum)
```

```
sum of first 10 number is : 55
```

AVERAGE USING USER INPUT

In [5]:

```
print('calculate an average of first n natural numbers')
n = int(input('enter the number:'))
average = 0
sum = 0
for num in range(0,n+1,1):
    sum = sum+num
average = sum/n
print('average of first',n,'natural num is :',average)
```

```
calculate an average of first n natural numbers
enter the number:10
average of first 10 natural num is : 5.5
```

In [ ]:

```
for iter in range(0,5):
    print('iter: %f' % (iter))
```

In [10]:

```
n = 20
sum = 0
total_number = n
while(n>=0):
    sum =+n
    n-=1
    print('sum using while loop',sum)
    average = sum/total_number
```

```
    print('average using while loop',average)
```

```
sum using while loop 20
average using while loop 1.0
sum using while loop 19
average using while loop 0.95
sum using while loop 18
average using while loop 0.9
sum using while loop 17
average using while loop 0.85
sum using while loop 16
average using while loop 0.8
sum using while loop 15
average using while loop 0.75
sum using while loop 14
average using while loop 0.7
sum using while loop 13
average using while loop 0.65
sum using while loop 12
average using while loop 0.6
sum using while loop 11
average using while loop 0.55
sum using while loop 10
average using while loop 0.5
sum using while loop 9
average using while loop 0.45
sum using while loop 8
average using while loop 0.4
sum using while loop 7
average using while loop 0.35
sum using while loop 6
average using while loop 0.3
sum using while loop 5
average using while loop 0.25
sum using while loop 4
average using while loop 0.2
sum using while loop 3
average using while loop 0.15
sum using while loop 2
average using while loop 0.1
sum using while loop 1
average using while loop 0.05
sum using while loop 0
average using while loop 0.0
```

In [9]:

```
n = 5
k = 5
for i in range(0,n+1):
    for j in range(k-i,0,-1):
        print (j,end = " ")
    print()
```

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

DISPLAY - 10 TO -1 USING FOR LOOP

In [8]:

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

```
-10
-9
-8
-7
```

```
-6
-5
-4
-3
-2
-1
```

write a program to find GDC OR HFC

In [7]:

```
x = int(input("enter the first number : "))
y = int(input("enter the second number : "))
while y!=0:
    x,y =y, x%y
x
```

```
enter the first number : 12
enter the second number : 4
```

Out[7]:

```
4
```

In [11]:

```
i = 1
while i<=10:
    print(13*i)
    i+=1
```

```
13
26
39
52
65
78
91
104
117
130
```

BREAK NAD THE CONTINUE STTEMENT

In [12]:

```
for a in range(5):
    if a ==2:
        break
    print(a)
```

```
0
1
```

In [14]:

```
for a in range(8):
    if a ==2:
        continue
    print(a)
```

```
0
1
3
4
5
6
7
```

FACTORIAL

In [15]:

```
number = int(input('enter the number'))
fac = 1
if number ==0:
    print(1)
else:
    while number>=1:
        fac = fac*number
        number = number -1
    print(fac)
```

```
enter the number5
120
```