In [10]:
```
#program to loop through a list of number and add +2 t0 every value element in the list
num=[100,56,90]
print(num)
res=[]
for i in range(0,len(num)):
    res.append(num[i]+2)
print(res)
```

```
[100, 56, 90]
[102, 58, 92]
```

In [1]:
```
#to get below pattern
for i in range(5,0,-1):
    for j in range(i,0,-1):
        print(j,end='')
    print()
```

```
54321
4321
321
21
1
```

In [16]:
```
#to print fibonacci sequence
x=int(input("enter the number:"))
temp=0
a=0
b=1
if(x<=0):
    print("enter the positive number:")
elif x==1:
     print(b)
else:
    print("fibonacci sequence:")
    while temp<x:
```

```
x=int(input("enter the number:"))
temp=0
a=0
b=1
if(x<=0):
    print("enter the positive number:")
elif x==1:
     print(b)
else:
    print("fibonacci sequence:")
    while temp<x:
        print(a)

        c=a+b
        a= b
        b=c
        temp=temp+1
```

```
enter the number:14
fibonacci sequence:
0
1
1
2
3
5
8
13
21
34
55
89
144
```

```
enter the number:14
fibonacci sequence:
0
1
1
2
3
5
8
13
21
34
55
89
144
233
```

In [1]:
```
#Armstrong number is sum of cubes of its digits is the number itself.Here consider an example of 150=1^3+5^3+0^3=126
#hence "150" is not an Armstrong number.in first iteration d=0 and s=0+0^3=0 and temp=150/10=15.by checking if condition 150!=0.
#second iteration checking the while loop condition 15>0 true,d=5,s=0+5^3=125  ,temp=1 checking if condition 1!=125
#in third iteration 1>0,d=1,s=126,temp=0,checking if condition 0!=126 hence checking while condition 0>0 come out of the loop
#and print else statement 150 is not an Armstrong number
num2=int(input("enter number:"))
s=0
temp=num2
while temp>0:
    d=temp%10
    s+=d**3
    temp//=10

if num2==s:
    print(num2,"is an Armstrong number")
else:
    print(num2,"is  not an Armstrong number")
```

```
enter number:150
```

```
150 is  not an Armstrong number
```

In [2]:
```
#to print multiplication table of 9
n=9
for i in range(1,11):
    print(n,'*',i,'=',n*i)
```

```
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
```

In [3]:
```
#to check the number is negative or positive
num=int(input("enter the number"))
if(num>0):
    print("positive number")
else:
    print("negative number")
```

```
enter the number-35
negative number
```

In [13]:
```
#to convert days to ages
x=int(input("input for days="))
print("number of years=",x/365)
```

```
input for days=365
number of years= 1.0
```

In [32]:
```
#trigonometry problem using math function
import math
x=9
print("sine of pi/6 is:",math.sin(math.pi/6))
print("radians of x is:",math.radians(x))
```

```
sine of pi/6 is: 0.49999999999999994
radians of x is: 0.15707963267948966
```

In [50]:
```
#calculator code using if condition(basic arithmetic calculation)
num1=float(input("enter first number:"))
num2=float(input("enter second number"))
c=int(input("enter the users choice:"))
if c==1:
    print("addition of two numbers is:",num1+num2)
elif c==2:
    print("subtraction of two numbers is:",num1-num2)
elif c==3:
    print("multiplication of two numbers is:",num1*num2)
elif c==4:
    print("division of two numbers is:",num1/num2)
elif c==5:
    print("invalid choice")
```

```
enter first number:-50
enter second number60
enter the users choice:2
subtraction of two numbers is: -110.0
```