1. **Write a program to loop through a list of numbers and add +2 to every value to elements in list**

In [ ]:

```
a=[10,20,30,40,50]
for i in a:
  print(i+2,end=" ")
```

```
12 22 32 42 52
```

1. **Write a program to get the below pattern**

In [ ]:

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

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

1. **Python Program to Print the Fibonacci sequence**

In [16]:

```
def num(n):
  if n < 0:
    print("number is less than zero ")
  elif n==0:
    print("Zero")
  elif n==1 or n==2:
    return 1
  else:
    return num(n-1) + num(n-2)
print(num(10))
```

```
55
```

1. **Explain Armstrong number and write a code with a function**

In [23]:

```
n=int(input(""))
sum=0
temp=n
while temp > 0:
  digit=temp%10
  sum=sum+digit**3
  temp=temp//10
if n==sum:
  print("Amstrong Nnumber")
else:
  print("Not amstrong Number")
```

```
153
Amstrong Nnumber
```

5.Write a program to print the multiplication table of 9

In [ ]:

In [28]:

```
for i in range(1,11):
  print(9,"x",i,"=",i*9)
```

```
9 x 1 = 9
9 x 2 = 18
9 x 3 = 27
9 x 4 = 36
9 x 5 = 45
9 x 6 = 54
9 x 7 = 63
9 x 8 = 72
9 x 9 = 81
9 x 10 = 90
```

1. **Check if a program is negative or positive**

In [29]:

```
x=int(input(""))
if x > 0:
  print("Positive")
else:
  print("Negative")
```

```
-60
Negative
```

1. **Write a program to convert the number of days to ages**

In [54]:

```
x=int(input("Enter the no of days "))
if x < 0:
  print("days cannot be negative")
elif x==0:
  print("days cannot be zero")
else :
  print("Age",x//365)
```

```
Enter the no of days 5738
Age 15
```

1. **Solve Trigonometry problem using math function write a program to solve using math function**

In [43]:

```
import math
x=int(input(""))
print(math.sin(x)," Sin")
print(math.cos(x)," Cos")
print(math.tan(x)," Tan")
```

```
1
0.8414709848078965  Sin
0.5403023058681398  Cos
1.5574077246549023  Tan
```

9.Create a calculator only on a code level by using if condition (Basic arithmetic calculation)

In [52]:

```
a=int(input("num1 "))
b=int(input("num2 "))
c=input( " ")
if c == '+':
  print("Addition of two numbers ",a+b)
```

```
elif c=='-':
  print("Subtracton of two numbers ",a-b)
elif c == '*':
  print("Multiplication of two numbers ",a*b)
elif c == '/':
  if a == 0:
    print("Numerator Cannot be zero")
  elif b == 0:
    print("Zero division Error")
  elif a==0 and b==0:
    print("Zero")
  else:
    print("Division of of two numbers ",a/b)
else:
  print("not found")
```

```
num1 20
num2 4
 *
Multiplication of two numbers  80
```

In [ ]:

```
```