# IF EllF Else and nested IF

In [27]:
```
marks = input("Enter your marks")
```

In [28]:
```
marks = int(input("Enter your marks") )
if marks >= 45 and marks <= 50:
    print('Pass')
```

```
Pass
```

In [29]:
```
marks = int(input("Enter your marks") )
if marks >= 45 and marks <= 100:
    print("Pass")
else:
    print("Fail")
```

```
Fail
```

In [30]:
```
marks = int(input("Enter your marks:") )
attendance = float(input("Enter your attendance percentage:"))
if marks >= 45 and marks <= 100:
    if attendance >= 75:
        print("Pass")
    else:
        print("Fail due to insufficient attendance")
```

```
Fail due to insufficient attendance
```

In [31]:
```
marks = int(input("Enter your marks") )
if marks >= 45 and marks <= 50:
    print("D Grade")
elif marks >50 and marks <= 65:
    print("C Grade")
elif marks >65 and marks <= 80:
    print("B Grade")
elif marks >80 and marks <= 100:
    print("A Grade")
```

```
D Grade
```

In [32]:
```
marks = int(input("Enter your marks") )
if marks >= 45 and marks <= 50:
    print("D Grade")
elif marks >50 and marks <= 65:
    print("C Grade")
elif marks >65 and marks <= 80:
    print("B Grade")
elif marks >80 and marks <= 100:
    print("A Grade")
else:
    print("Fail")
```

```
D Grade
```

In [ ]:

# for loop and for while

In [33]:
```
for i in range(1,10):
    print(i,end=' '),
```

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

In [34]:
```
fruits = ['kiwi', 'mango', 'banana', 'orange','apple']
for fruit in fruits:
    print(fruit)
```

```
kiwi
mango
banana
orange
apple
```

In [35]:
```
fruits = ['kiwi', 'mango', 'banana', 'orange','apple']
for fruit in fruits:
    print('I like',fruit)
```

```
I like kiwi
I like mango
I like banana
I like orange
I like apple
```

In [36]:
```
for i in range(1,11):
    if i ==7:
        pass
    elif i ==5:
        continue
    elif i ==9:
        break
    print(i)
```

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

In [37]:
```
for i in range(1,20):
    if i %2 ==0:
        print(i)
    else:
        print('is odd')
```

```
is odd
2
is odd
4
is odd
6
is odd
8
is odd
10
is odd
12
is odd
14
is odd
16
is odd
18
is odd
```

In [62]:
```
row = int(input("Enter number of rows:"))
for i in range(1, row+1):
    for j in range(1, i+1):
        print('*', end=' ')
    print()
```

```
*
* *
* * *
* * * *
* * * * *
```

In [39]:
```
for i in range(1,11):
    for j in range(1,11):
        print(f'{i} x {j} = {i*j}', end=' ')
```

```
1 x 1 = 1 1 x 2 = 2 1 x 3 = 3 1 x 4 = 4 1 x 5 = 5 1 x 6 = 6 1 x 7 = 7 1 x 8
= 8 1 x 9 = 9 1 x 10 = 10 2 x 1 = 2 2 x 2 = 4 2 x 3 = 6 2 x 4 = 8 2 x 5 = 10
2 x 6 = 12 2 x 7 = 14 2 x 8 = 16 2 x 9 = 18 2 x 10 = 20 3 x 1 = 3 3 x 2 = 6
3 x 3 = 9 3 x 4 = 12 3 x 5 = 15 3 x 6 = 18 3 x 7 = 21 3 x 8 = 24 3 x 9 = 27
3 x 10 = 30 4 x 1 = 4 4 x 2 = 8 4 x 3 = 12 4 x 4 = 16 4 x 5 = 20 4 x 6 = 24
4 x 7 = 28 4 x 8 = 32 4 x 9 = 36 4 x 10 = 40 5 x 1 = 5 5 x 2 = 10 5 x 3 = 15
5 x 4 = 20 5 x 5 = 25 5 x 6 = 30 5 x 7 = 35 5 x 8 = 40 5 x 9 = 45 5 x 10 = 5
0 6 x 1 = 6 6 x 2 = 12 6 x 3 = 18 6 x 4 = 24 6 x 5 = 30 6 x 6 = 36 6 x 7 = 4
2 6 x 8 = 48 6 x 9 = 54 6 x 10 = 60 7 x 1 = 7 7 x 2 = 14 7 x 3 = 21 7 x 4 =
28 7 x 5 = 35 7 x 6 = 42 7 x 7 = 49 7 x 8 = 56 7 x 9 = 63 7 x 10 = 70 8 x 1
= 8 8 x 2 = 16 8 x 3 = 24 8 x 4 = 32 8 x 5 = 40 8 x 6 = 48 8 x 7 = 56 8 x 8
= 64 8 x 9 = 72 8 x 10 = 80 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 10 x 1 = 10 10
x 2 = 20 10 x 3 = 30 10 x 4 = 40 10 x 5 = 50 10 x 6 = 60 10 x 7 = 70 10 x 8
= 80 10 x 9 = 90 10 x 10 = 100
```

In [51]:
```
row = int(input("Enter number of rows:"))
for i in range(1, row+1):
    for j in range(row-i):
        print(" ", end='')
    for k in range(i):
```

```
        print('*', end=' ')
    print()
```

```
    *
   * *
  * * *
 * * * *
* * * * *
```

In [56]:
```
row = int(input("Enter number of rows:"))
for i in range(row,0,-1):
    for j in range(row-i):
        print(" ", end='')
    for k in range(i):
        print('* ', end=' ')
    print()
```

```
*  *  *  *  *
 *  *  *  *
  *  *  *
   *  *
    *
```

In [ ]:
```
for char in 'python':      #printing each character in string
    print(char)
```

```
p
y
t
h
o
n
```

In [ ]:
```
dict = {"name": "John", "age": 30, "city": "New York"}
for key,value in dict.items():      #.items() method used to get key-value p
    print(key,'--->' , value)
```

```
name ---> John
age ---> 30
city ---> New York
```

In [61]:
```
dict = {"name": "John", "age": 30, "city": "New York"}
for key,value in enumerate(dict.items()):      #.items() method used to get
    print(key,'--->' , value)
```

```
0 ---> ('name', 'John')
1 ---> ('age', 30)
2 ---> ('city', 'New York')
```

## While Loops

In [63]:
```
i = 1
while i<=5:
    print(i)
    i += 1
```

```
1
2
3
4
5
```

In [71]:
```python
i = 1
while i<=3:
    j=1
    while j<=10:
        print(f"{i}X{j}={i*j}")
        j += 1
    print()
    i += 1
```

```
1X1=1
1X2=2
1X3=3
1X4=4
1X5=5
1X6=6
1X7=7
1X8=8
1X9=9
1X10=10

2X1=2
2X2=4
2X3=6
2X4=8
2X5=10
2X6=12
2X7=14
2X8=16
2X9=18
2X10=20

3X1=3
3X2=6
3X3=9
3X4=12
3X5=15
3X6=18
3X7=21
3X8=24
3X9=27
3X10=30
```

In [74]:
```python
human = 10
computer = 5
while human != computer:
    human = int(input("Enter your number:"))
    if human == computer:
        print("You win!")
```

```
        break
    else:
        print("Try again!")
else:
    print("You Win without loop")
```

```
Try again!
Try again!
Try again!
Try again!
Try again!
You win!
```

In [83]:
```
i =-1
while i <20:
    i +=1
    if i == 5:
        continue
    if i ==10:
        break
    print(i)
```

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

In [ ]:
```

```