SET OPERATIONS

UNION

```
#set operations
#UNION
set_1 = {1,2,3,4,5,6,7,8,9}
set_2 = {7,8,9,10,11,12,13}
union=set_1|set_2
print(f"the union of 2 sets is {union}")
print(set_1.union(set_2))
```

the union of 2 sets is {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13}
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

```
# UNION USING 3 SETS
X = {10, 20, 30}
Y = {30, 40, 50}
Z = {50, 60, 70}
ion= (X|Y|Z)
print(f"the union of three sets is : {ion} ")
print(X.union(Y,Z))
```

the union of three sets is : {50, 20, 70, 40, 10, 60, 30}
{50, 20, 70, 40, 10, 60, 30}

INTERSECTION

```
# INTERSECION
set_1 = {1,2,3,4,5,6,7,8,9}
set_2 = {7,8,9,10,11,12,13}
intersec= set_1 & set_2
print(f"the intersection of 2 sets is :{intersec}")
print(set_2.intersection(set_1))
```

the intersection of 2 sets is :{8, 9, 7}
{8, 9, 7}

```
# intersection using 3 sets
X = {10, 20, 30}
Y = {30, 40, 50}
Z = {30,50, 60, 70}
intersec= X & Y & Z
print(f"the intersection of 3 sets is {intersec}")
print(X.intersection(Y,Z))
```

the intersection of 3 sets is {30}
{30}

DIFFERENCE

```
#DIFFERENCE
set_1 = {1,2,3,4,5,6,7,8,9}
set_2 = {7,8,9,10,11,12,13}
diff= set_1-set_2
print(f"the difference of two set is {diff}")
print(set_2.difference(set_1))
```

the difference of two set is {1, 2, 3, 4, 5, 6}
{10, 11, 12, 13}

```
# difference using 3 sets
X = {10, 20, 30, 40, 50}
Y = {30, 40, 50, 60, 70}
Z = {40, 50, 60, 70, 80}
diff_2=(X - Y - Z)
print(f"the diffence of 3 sets is {diff_2}")
print(X.difference(Y,Z))
```

the diffence of 3 sets is {10, 20}
{10, 20}

If statements

IT execute & displays the out put when the condition is true or satisfied

Elif:
If the primary function is not satisfied this will execute the second condition
And display the output correspondingly.

```
number = int(input("Enter a number: "))
if number == 2:
   print(f" {number} is neither even nor odd ")
elif number % 2 == 0:
   print(f"{number} is an even number.")
else:
   print(f"{number} is an odd number.")
```

Enter a number: 987

987 is an odd number.

```
# age consider for the watching movies
age= int(input("enter the age :"))
if age >= 18 :
   print(f"U are elgible to watch the movie")
else :
   print(f"U are under age to watch the movie")
```

enter the age :16
U are under age to watch the movie

enter the age : 21
U are elgible to watch the movie

```
#boolean
print("ilove pizza" )
for_sale=False
if for_sale:
   print("the item is available for sale")
else:
   print ("the item is not available")

im_a_teacher=True

if im_a_teacher:
   print("yes i am a teacher")
else:
   print("i am not a teacher")
```

the item is not available
yes i am a teacher

NESTED IF

```
num = int(input("enter the number :"))

if num > 0:
   print("Positive number")
   if num % 2 == 0:
       print("Even number")
   elif num % 2 != 0 :
       print("odd number")
```

enter the number : 10
Positive number
Even number

enter the number : 25
Positive number

odd number

Process finished with exit code 0

Loop
For break and continue

```
numbers = [1, 3, 7, 9, 2, 6, 8, 4]

for num in numbers:
   if num ==8:
       print("Found the number !")
       break
else :
   print("the number is not in list")
```

Found the number !

```
# continue
numbers = [1, 2, 3, 4, 5, 6]

for num in numbers:
   if num % 2 == 0:
       continue
   print(num)
```

1
3
5

WHILE

```
count = 1

while count < 10:
   print(count)
   if count == 7:
       break
   count += 1
```

1
2
3
4
5
6

WHILE WITH CONTINUE

```
count = 2

while count < 6:
   count += 1
   if count == 5:
       continue
   print(count)
```

3
4
6