

Operators

In []:

```
1.Arithmetic Operators   : +,-,*,/,%,//(floor),**(power)
2.Assignment Operators  : =,+=,-=,/=,*=,**=.
3.Logical Operators      : and,or,not
4.Comparison Operators  : ==,!=,<,>,<=,>=
5.Bitwise Operators      : ~,&|,<<,>>
6.Membership Operators  : in,not in
7.Identity Operators     : is,is not
```

In []:

1.Arithmetic Operators:

These operators are used to perform mathematical operations like addition, subtraction, multi.....

In [7]:

```
print(6+7)
# 6 and 7 --- operands
# + --> operator
print(6-7)
print(6*8)
print(6/4)
print(6//4)
print(6**3)
print(7%2)
```

```
13
-1
48
1.5
1
216
1
```

In []:

Assignment Operators:

Assignment operators are simply to assign values...

In [9]:

```
a=7
a+=2 # a=a+2 = 7+2=9
print(a)
```

9

In [10]:

```
b=7
b-=2 # b=b-2=7-2=5
print(b)
```

5

In [11]:

```
c=8
c*=5
print(c)
```

40

In []:

Comparison Operators: ==, !=, <, >, <=, >=

These operators can be used to compare values

In [12]:

```
a=7
v=8
print(a==v)
```

False

In [13]:

```
a=4
b=4
print(a==b)
```

True

In [14]:

```
c=7
n=9
print(c!=n)
```

True

In [15]:

```
a=7
n=7
print(a!=n)
```

False

In [17]:

```
j=9
m=7
print(j>m) # 9>7
print(j<m)
```

True
False

In [19]:

```
print(j>=m)
print(j<=m)
```

True
False

In []:

Bitwise Operators: ~,&,&|,<<,>>

In [21]:

```
bin(56)
```

Out[21]:

'0b111000'

In []:

```
and----

0 0 -- 0
0 1 -- 0
1 0 -- 0
1 1 -- 1
```

In []:

```
or-----

0 0 - 0
0 1 - 1
1 0 - 1
1 1 - 1
```

In [26]:

```
a=20
b=10
print(a&b)
print(a|b)
```

0
30

In [24]:

```
bin(20)
```

Out[24]:

```
'0b10100'
```

In [25]:

```
bin(10)
```

Out[25]:

```
'0b1010'
```

In []:

membership operators: **in, not in**

membership operators are tested **for** membership **in** a sequence, such as a string, **tuple**, **list**.

In [33]:

```
li=[5,6,2,3,8,9]
print(2 in li)
print(8 in li)
print(7 in li)
print(8 in li)
print(11 not in li)
print(6 not in li)
print(5 not in li)
```

```
True
True
False
True
True
False
False
```

In [40]:

```
s="apssdc"
print("s" in s)
print("y" in s)
print("c" in s)
print("ap" in s)
print("aps" in s)
print("sc" in s)
print("ssdc" in s)
```

```
True
False
True
True
True
False
True
```

In []:

Identity Operators: **is, is not**

Identity operators compares the memory locations of two objects

In [43]:

```
a=34
b=35
print(a is b)
print(a is not b)
```

False

True

In [45]:

```
a=45
b=45
print(a is b)
print(a is not b)
```

True

False

In [46]:

```
a=78
c=78.0
print(a is b)
```

False

In []:

Logical Operators: and, or, not

In []:

conditional statements:

--> decision making

--> conditional statements are used to execute a **set** of statements on some conditions.

* **if**

* **if-else**

* **elif**

* nested **if**

In []:

```
if:    if the given condition is true then if will be executed
```

In []:

syntax:

```
if(condition): (T)
    statements
```

In []:

```
# input: 6
# output: positive number
```

In [48]:

```
n=int(input('Enter any number: '))
if(n>0):    # 5>0(T)
    print("Positive number")
```

Enter any number: -7

In []:

```
# i/p: 7
# o/p: odd

# 6
# even
```

In [52]:

```
n=int(input())
if(n%2==1):
    print("Odd number")
else:
    print("Even number")
```

6
Even number

In [54]:

```
# i/p: 78
# o/p: eligible for vote

age=int(input('Enter age: '))
if(age>=18):
    print("Eligible for vote")
else:
    print("Not Eligible for vote")
```

Enter age: 5
Not Eligible for vote

In [56]:

```
n=int(input('Enter any number: '))
if(n>0): # 5>0(T)
    print("Positive number")
else:
    print("Negative number")
```

Enter any number: -7
Negative number

In []:

```
# i/p: 6
# o/p: even number
      36

# i/p: 7
o/p: odd number
     cube
```

In [57]:

```
n=int(input())
if(n%2==0): 6%2==0(T)
    print("Even number")
    print(n**2)
else:
    print("Odd number")
    print(n**3)
```

6
Even number
36

In []:

```
elif:

    To check one or more conditions...
```

In []:

syntax:

```

if(condition1):
    statement
elif(condition2):
    statement
elif(condition3):
    statement
elif(condition4):
    statement
..
.
.
else:
    statement

```

In []:

```

# input: 56
         45
         58
# o/p:   58 is biggest number

```

In [58]:

```

a=int(input())
b=int(input())
c=int(input())    # 56 45 58
if(a>b and a>c):  # 56>45(T) and 56>58(F)--> F
    print(a,"is big number")
elif(b>c):      # 45>58(F)
    print(b,"is big number")
else:
    print(c,"is big number")

```

```

45
89
75
89 is big number

```

In []:

```

0-SUNDAY
1-MONDAY
2-TUESDAY
3-WEDNESDAY
4-THURSDAY
5-FRIDAY
6-SATURDAY
ABOVE 7

I/P: 6
O/P: SATURDAY

ABOVE 7
O/P: INVALID INPUT

```


In [2]:

```
n=int(input())
if(n==0):
    print("Sunday")
elif(n==1):
    print("Monday")
elif(n==2):
    print("Tuesday")
elif(n==3):
    print("Wednesday")
elif(n==4):
    print("Thursday")
elif(n==5):
    print("Friday")
elif(n==6):
    print("Saturday")
else:
    print("Invalid input")
```

3

Wednesday

In []:

In []:

In []:

In []:

In []: