

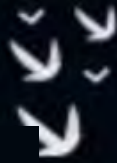
Data Science & AI & NIC - Param

Python-For Data Science

Operators

Lecture No.- 02

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Recap of Previous Lecture



Topic

Operators - 01



Arith.
Relational
Logical operators

Topics to be Covered



Topic

Operators - 02





Topic : Arithmetic Operators

$$x = x + 1 \Rightarrow \boxed{x++ = 1}$$

(i) +

(ii) = (assignment)

$$x = x + 10 \Rightarrow x+ = 10$$

$$x = x - 10 \Rightarrow x- = 10$$

$$x = x \times 10 \Rightarrow x \times = 10$$

$$x = x / 10 \Rightarrow x / = 10$$

$$x = x // 10 \Rightarrow x // = 10$$

$$x = x \cdot 10 \Rightarrow x \cdot = 10$$

$$x = x ** 10 \Rightarrow x ** = 10$$

$$x = x \& 10 \Rightarrow x \& = 10$$

$$x = x | 10 \Rightarrow x | = 10$$

$$x = x ^ 10 \Rightarrow x ^ = 10$$

$$x = x \ll 10 \Rightarrow x \ll = 10$$

$$x = x \gg 10 \Rightarrow x \gg = 10$$

unary \rightarrow 1 operand

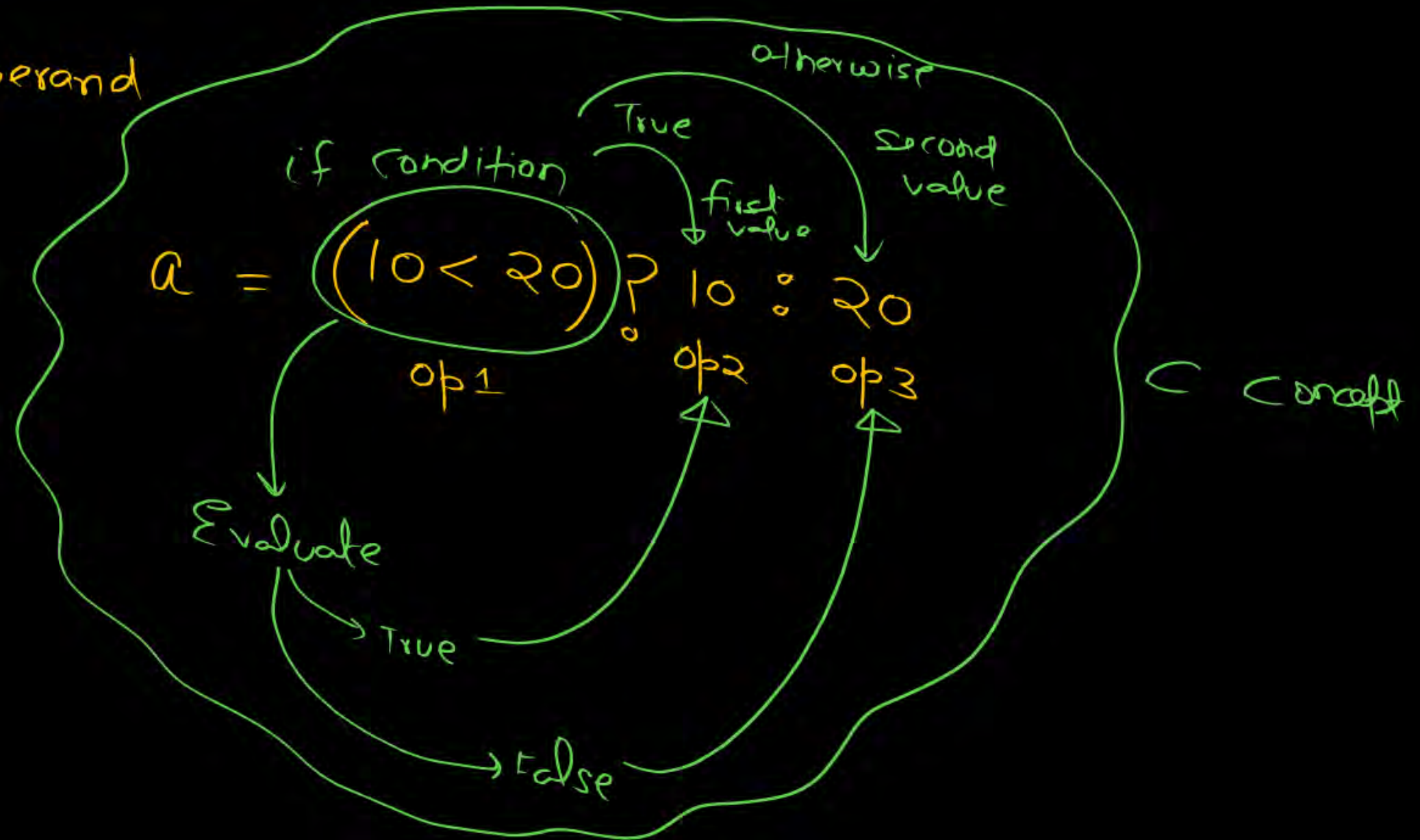
+7, -9 ($+, - \Rightarrow$ unary operator)

binary \rightarrow 2 operand

2+3, 3-2 ($+, - \Rightarrow$ binary operator)
2*3, 1**2, 10//2

Ternary \rightarrow 3 operand

C (P:)

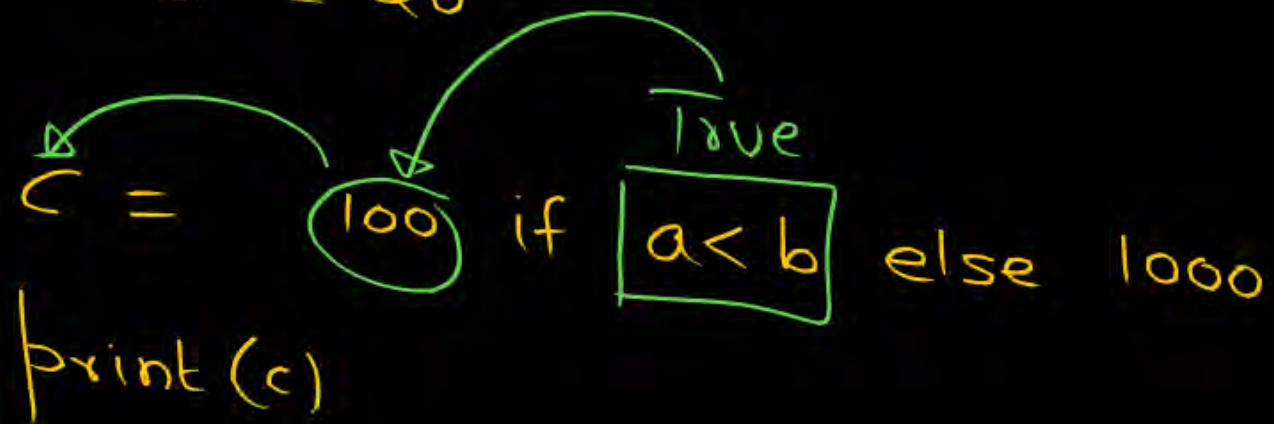


firstvalue if (condition) else secondvalue

$a = 10$

$b = 20$

$c =$ 100 if $a < b$ else 1000
print(c)



100

Take 2 numbers print largest among them.

↓ input()

a = int(input())

b = int(input())

c = a if a > b else b

print(c)

a = int(input("Enter First Number"))

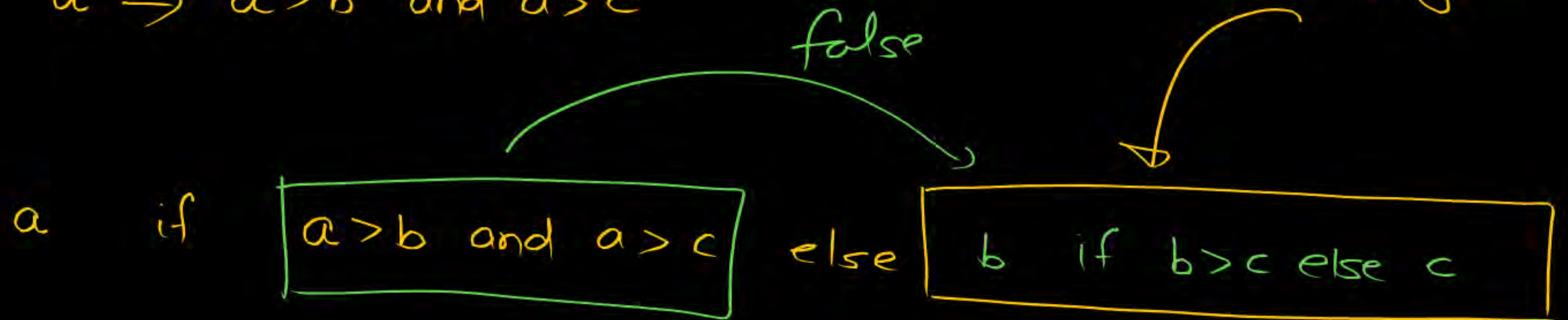
b = int(input("Enter second Number"))

c = a if a > b else b

print(c)

Take 3 distinct numbers from keyboard and find the largest

largest
 $a \Rightarrow a > b \text{ and } a > c$ if this is true



python

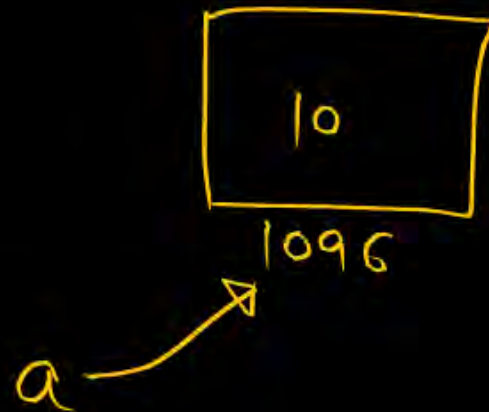
$\left. \begin{array}{l} a = 10 \\ b = 20 \end{array} \right\} \Rightarrow a, b = 10, 20$

$\left. \begin{array}{l} a = 10 \\ b = 20 \\ c = 30 \end{array} \right\} \Rightarrow a, b, c = 10, 20, 30$

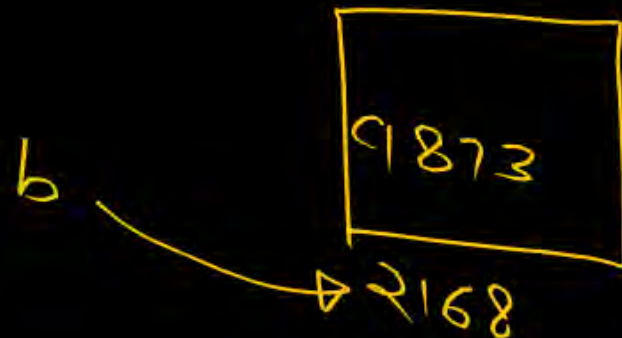
is operator

id \Rightarrow address

$a = 10$



$b = 9873$



$a, b = 10, 12.5$ ✓

$a, b = 10.2, 15$ ✓

$a, b = 10.2, 12.5$ ✓

$\text{id}(a) == \text{id}(b)$

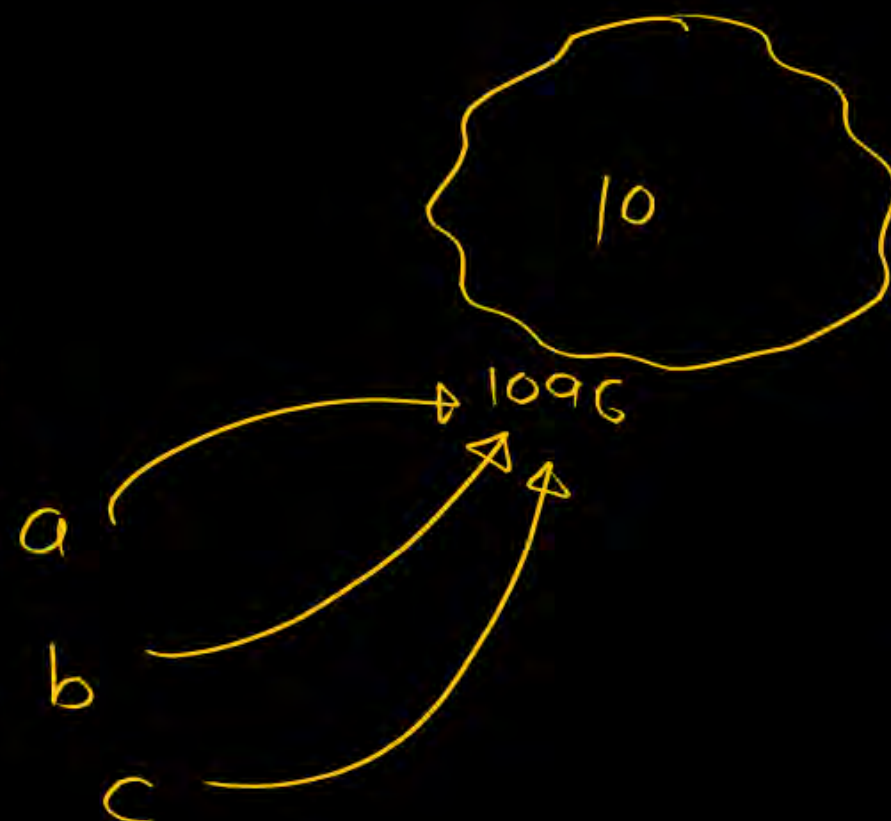
Optimization/reusability

Integers

$\left\{ \begin{array}{l} a = 10 \\ b = 10 \\ c = 10 \end{array} \right\}$

\equiv

$a = 999$



integers

-5 to 256 only

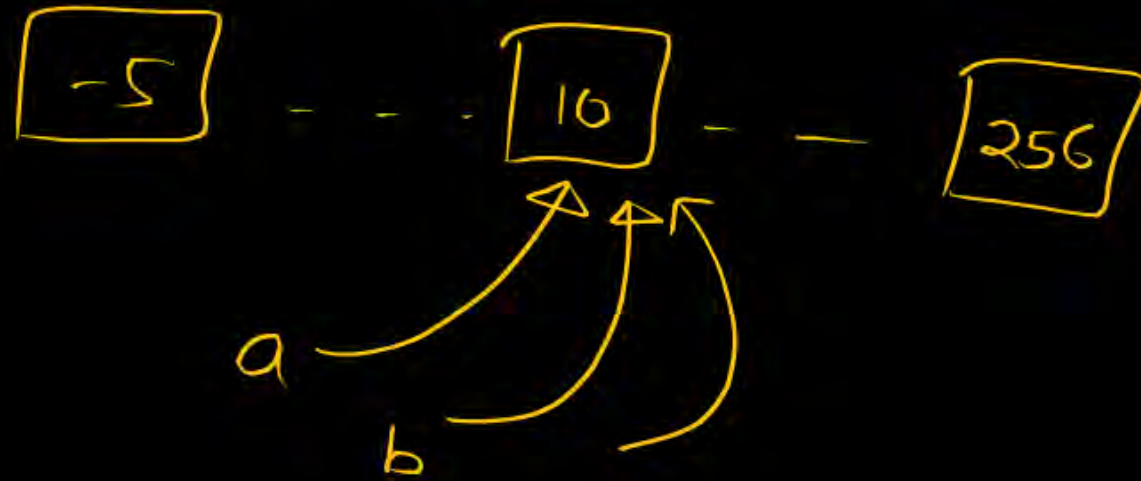
$a = 15$
 $b = 15$ } id same

$a = 10$
 $b = 9873$ } id diff.

$a = 10$

$b = 10$

$c = 10$



membership operator

in
Is 'P' present in "Pankaj" ?
collection

'P' in "Pankaj"
→ True

string : collection/group/sequence

of character

list : Collection/group

tuple : " "

set : " "

t.me/PWpankajsiP

~~Python 2~~
~~raw-input()~~

Python 3

Input/output in python

input() \Rightarrow To read i/p from keyboard

print() \Rightarrow To print o/p \rightarrow

a = 10

b = 20

c = a + b

print("The sum is : c")

String

print(a) \Rightarrow 10

print(b) \Rightarrow 20

The sum is : c


```
a = 10  
b = 20  
c = 30  
print(a, b, c)
```

102030

```
print(a, b, c, sep=" ")
```

```
print("Hello")  
print("Everyone")  
print("Kaise ho")
```

→ print Hello and go to next line

```
┌  
│ Hello  
│ Everyone  
│ Kaise ho  
└
```

print(object)
└─┬─┬─
int, list, tuple, ...

l = [1, 2, 3, "Panpaj"]

print(l) ✓

+ me/PWpanpajsirP

LF

operators

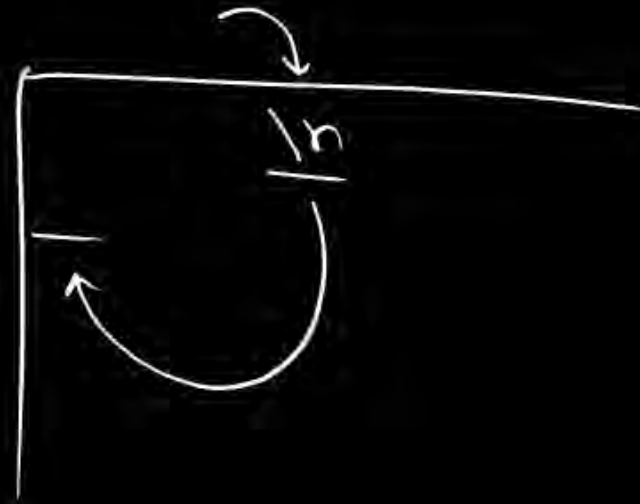
input/functions

⇒ { control flow statements
if statement
else
for loop
↓



\n ⇒ new line

(It move the cursor from
current position to the
starting of next line)



Iterate

Python course

internet

→ Fundamental

→ DS & Algo

→ Python for data science

Day 5 :Python for Data science

```
In [1]: a=int(input("Enter first number"))  
b=int(input("Enter second Number"))  
c= a if a>b else b  
print(c)
```

```
Enter first number10  
Enter second Number300  
300
```

```
In [2]: a=int(input("Enter first number"))  
b=int(input("Enter second number"))  
c=int(input("Enter third number"))  
d=a if a>b and a>c else (b if b>c else c)  
print(d)
```

```
Enter first number10  
Enter second number14  
Enter third number45  
45
```

```
In [5]: a=10  
b=9873
```

```
Out[5]: 1668219924816
```

```
In [6]: id(a)
```

```
Out[6]: 140731022152776
```

```
In [7]: id(b)
```

```
Out[7]: 1668219924816
```

```
In [8]: id(a)==id(b)
```

```
Out[8]: False
```

```
In [9]: #same is performed by is operator  
a is b #id(a)==id(b) if both a nd b are pointing to same object it returns true other
```

```
Out[9]: False
```

```
In [10]: x=15  
y=15
```

```
In [11]: id(x)
```

```
Out[11]: 140731022152936
```

```
In [12]: id(y)
```

Out[12]: 140731022152936

```
In [13]: a="pankaj"  
         b="pankaj"
```

```
In [14]: id(a)
```

Out[14]: 1668220533616

```
In [15]: id(b)
```

Out[15]: 1668220533616

```
In [16]: a is b
```

Out[16]: True

```
In [17]: #a is not b ==> id(a)!=id(b)
```

```
In [18]: l1=[1,2,3,"pankaj"]  
         l2=[1,2,3,"pankaj"]
```

```
In [19]: id(l1)
```

Out[19]: 1668221121664

```
In [20]: id(l2)
```

Out[20]: 1668220376640

```
In [21]: l1 is l2
```

Out[21]: False

```
In [22]: l1==l2#content is same in both the list
```

Out[22]: True

```
In [23]: s="pankaj sharma is worst faculty"
```

```
In [24]: 'p' in s
```

Out[24]: True

```
In [25]: "pankaj" in s
```

Out[25]: True

```
In [26]: "pankaj sharma" in s
```

Out[26]: True


```
In [27]: "pankaj Shamra" in s
```

```
Out[27]: False
```

```
In [28]: "Pankaj" not in s#"Pankaj" is not present in s string ==>True
```

```
Out[28]: True
```

```
In [29]: l1=[1,2,3,"pankaj"]  
print("pankaj" in l1)
```

```
True
```

```
In [30]: print("sharma" in l1)
```

```
False
```

```
In [31]: #in operator is called as membership operator in python  
#it returns True if the given object present in the provided collection/sequence
```

```
In [32]: print("Hello")  
print()  
print()  
print("hello")
```

```
Hello
```

```
hello
```

```
In [33]: a=10  
b=20  
c=30
```

```
In [34]: print(a,b,c)
```

```
10 20 30
```

```
In [35]: #by default output values are seperated by space  
#if u want to specify any other seperator  
#use sep  
print(a,b,c,sep='@')
```

```
10@20@30
```

```
In [36]: print(a,b,c,sep='#')
```

```
10#20#30
```

```
In [37]: print(a,b,c,sep='')
```

```
102030
```

```
In [38]: print(a,b,c,sep='pankaj')
```

```
10pankaj20pankaj30
```

```
In [39]: #use +  
print("pankaj" + "sharma")#no space bcz with + operator on string ==>concatenation
```

pankajsharma

```
In [40]: print("pankaj","sharma")#space is there bcz by default seperator is a space
```

pankaj sharma

```
In [41]: a=10
b=20
print("The sum is",a+b)#space ayega ==>bcz comma ==>space The sum is 30
```

The sum is 30

```
In [42]: print("Hello")
print("Everyone")
print()
```

Hello
Everyone

```
In [43]: print("Hello")
print("Everyone")
print("Kaise ho")
```

Hello
Everyone
Kaise ho

```
In [44]: #end attribute by default end='\n'(new Line)
print("Hello",end=' ')
print("Everyone",end=' ')
print("Kaise ho",end=' ')
```

Hello Everyone Kaise ho

```
In [45]: l1=[1,2,3,"pankaj"]
print(l1)
```

[1, 2, 3, 'pankaj']

```
In [46]: x=(1,2,3,4)
print(x)
```

(1, 2, 3, 4)

```
In [47]: a=10
b=20
c=30
print("First value is",a,"Second value is",b,"third value is",c)
```

First value is 10 Second value is 20 third value is 30

```
In [48]: print("hello \n bacho")#hello newline space bacho new Line
```

hello
bacho

```
In [49]: #repeation operator *
print("pankaj" *3)
```

pankajpankajpankaj

```
In [50]: print(2*"neeraj")
```

neerajneeraj

In [51]: `print("Pankaj" + "sharma")`

Pankajsharma

In []:

THANK - YOU