Input

```
nameList = ['Harsh', 'Pratik', 'Bob', 'Dhruv']
print (nameList[1][-1])
print (nameList[2][2:])
print (nameList[2][-2:])
```

Output

k
osnam
am

```
Codes = [1, 2, 3, 4]
Codes.append([5,6,7,8])
print(Codes)
```

Output

[1, 2, 3, 4, [5, 6, 7, 8]]

```
list1 = range(100,110)
print (list1.index(105))
print (list1.index(108))
print (list1.index(106))
```

Output

5

8

6

```
list1 = [1, 2, 3, 4, 5]
list2 = list1
list2[0] = 0;
print(list1)
print(list2)
```

Output

[0, 2, 3, 4, 5]

[0, 2, 3, 4, 5]

```
L = [1, 3, 5, 7, 9]
print(L.pop(-3), end = ' ')
print("\n")
print(L)
```

Output

5

[1, 3, 7, 9]

```
sets = {3, 4, 5}
sets.update([1, 2, 3])
print(sets)
```

Output

{1, 2, 3, 4, 5}

```
print(set1)
set2 = set1.add(4)
print(set2)
set2=set1
set1.add(4)
print(set2)
```

Output
{1, 2, 3}

None

{1, 2, 3, 4}

```
A = {0, 2, 4, 6, 8}; B = {1, 2, 3, 4, 5};
print(A | B)
print(A.union(B))
```

Output
{0, 1, 2, 3, 4, 5, 6, 8}

{0, 1, 2, 3, 4, 5, 6, 8}

```
A = {0, 2, 4, 6, 8}; B = {1, 2, 3, 4, 5}; print( A - B)
print (A.difference(B))
```

Output
{0, 8, 6}

{0, 8, 6}

```
set1 = set([ 4, 5, (6, 7)])
set1.update([10, 11])
print(set1)
```

Output
{4, 5, 10, 11, (6, 7)}

```
tuple = (1, 2, 3, 4)
tuple.append( (5, 6, 7) )
print(len(tuple))
print(len(my_tuple))
```

Output
tuple.append((5, 6, 7))

AttributeError: 'tuple' object has no attribute 'append'

```
tuple = (1, 2, 3)
print(2 * tuple)
```

Output
(1, 2, 3, 1, 2, 3)

```
T1 = (1)
T2 = (3, 4)
T1 += 5
print(T1)
```

Output
6

```
a = {'x' : 1, 'y' : 2}
b = {'x' : 2, 'y' : 1}
print (a == b)
```

Output
False

```
d ={"john":40, "peter":45}
print(d["john"])
```

Output
40

```
d1 = {"john":40, "peter":45}
d2 = {"john":466, "peter":45}
print (d1 > d2)
```

Output
print (d1 > d2)

TypeError: '>' not supported between instances of 'dict' and 'dict'

```
d1 = {"john":40, "peter":45}
d2 = {"john":466, "peter":45}
print (d1 == d2)
```

Output
False

```
dictionary = {"SIT":10, "dept":45, "IT": 90}
print("SIT" in dictionary)
```

Output
True

```
dictionary ={1:"SIT", 2:"IT", 3:"DEPT"}
del dictionary
```

Output

```
a = {i: i * i for i in range(6)}
print (a)
```

Output
{0: 0, 1: 1, 2: 4, 3: 9, 4: 16, 5: 25}

```
v=2;w=3;x=4;y=19;z=23
a=v**v//x%x+y%w*z//x
print(a)
b=v**(v//x)%x+y%(w*z)//x
print(b)
```

Output
6
5

```
a=3;b=4;c=1;d=5;e=3
f=a+b-c*d+e/d
print(f)
g=a+b-c*(d+e)/d
print(g)
h=a+(b-c)*d+e/d
```

Output
2.6
5.4
18.6
30.6

```
a=3.0
b=4
c=10
print(a+b+c+(c==c))
```

Output
18.0

```
a=5
print(a)
print(type(a))
```

Output
5
<class 'int'>

```
a=3.4
print('a=',a)
print(type(a))
b=3
print('b=',b)
print(type(b))
c='name'
print('c=',c)
print(type(c))
```

Output
a= 3.4
<class 'float'>
b= 3
<class 'int'>
c= name
<class 'str'>

```
a=-3.527e3
print('a=',a)
print(type(a))
b=-3257.0
print('b=',b)
print(type(b))
```

Output
a= -3527.0
<class 'float'>
b= -3257.0
<class 'float'>

```
print(2.9, "number type is ",type(2.9))
print(1, "number type is ",type(1))
print(1e0, "number type is ",type(1e0))
print(2, "number type is ",type(2))
print(1.0e0, "number type is ",type(1.0e0))
print(3, "number type is ",type(3))
print(-4, "number type is ",type(-4))
print(4, "number type is ",type(4))
print(2012034821, "number type is ",type(2012034821))
print(5, "number type is ",type(5))
print(32., "number type is ",type(32.))
print(6, "number type is ",type(6))
print(-1e0, "number type is ",type(-1e0))
```

Output
2.9 number type is <class 'float'>
1 number type is <class 'int'>
1.0 number type is <class 'float'>
2 number type is <class 'int'>
1.0 number type is <class 'float'>
3 number type is <class 'int'>
-4 number type is <class 'int'>
4 number type is <class 'int'>
2012034821 number type is <class 'int'>
5 number type is <class 'int'>
32.0 number type is <class 'float'>
6 number type is <class 'int'>
-1.0 number type is <class 'float'>

```
print(7, "number type is ",type(7))
print(-1.0e0, "number type is ",type(-1.0e0))
print(8, "number type is ",type(8))
print(391, "number type is ",type(391))
print(9, "number type is ",type(9))
print(29e-1, "number type is ",type(29e-1))
print(10, "number type is ",type(10))
print(-5.22e25, "number type is ",type(-5.22e25))
print(11, "number type is ",type(11))
print(-100011, "number type is ",type(-100011))
```

```
7 number type is  <class 'int'>
-1.0 number type is  <class 'float'>
8 number type is  <class 'int'>
391 number type is  <class 'int'>
9 number type is  <class 'int'>
2.9 number type is  <class 'float'>
10 number type is  <class 'int'>
-5.22e+25 number type is  <class
'float'>
11 number type is  <class 'int'>
-100011 number type is  <class 'int'>
```

```
x=19
y=7
z1=x%y
print('The remainder of ',x,'/',y,' = ', z1)
z2=x//y
print('Integer division of ',x,' and ',y, ' = ', z2)
```

Output

```
The remainder of  19 / 7  =  5
Integer division of  19  and  7  =  2
```

```
a=2
b=3
print(a==b)
print(a!=b)
print(a>=b)
print(a>=a)
print(a<=a)
print(a>b)
print(a < b)
```

Output

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

```
a=3; b=9; c=5
d=(a<b) and (a<c)
print(d)
e=(a<b) and (b<c)
print(e)
print(not a<b)
f=(b<c) or (c<a)
print(f)
g=(b<c) or (c>=a)
print(g)
```

Output

```
True
False
False
False
True
```

```
a=3; b=9; c=5
d=(a<b) and (a<c); print(d)
e= a<b and a<c ; print(e)
f= b<c and b<a or a<c ; print(f)
g= b<c and (b<a or a<c) ;print(g)
h= not b<c and not b<a ; print(h)
i= not(b<c or b<a); print(i)
```

Output
True
True
True
False
True
True

```
a = 5; b = 2; c = 3
print(a + b == 7)
print(a + (b == 2))
print(a + b + c < 5 or b > 0 and c >= 3)
print(a + b + c < 5 and b > 0 and c >= 3)
print((b / c >= 7 or b > 0) and c >= 3)
```

Output
True
6
True
False
True

```
x=4; y=3; z=2
a=x+y>x/z
print(type(a))
print(a)
```

Output
<class 'bool'>
True

```
a=True; b=5; c=2.0
x=a+b//c
y=b%c>=1 and a
print(x)
print(type(x))
print(y)
print(type(y))
```

Output
3.0
<class 'float'>
True
<class 'bool'>