Python Tutor: Visualize code in Python, JavaScript, C, C++, and Java

Python 3.6
(known limitations)

```
1  Array=[5,7,9,11,13]
2  sumArray=0
3  print(Array)
4  Length=len(Array)
5  print(Length)
6  for i in Array:
7      sumArray=sumArray+i
8  print(sumArray)
```

Edit this code

line that just executed
next line to execute

<< First | < Prev | Next > | Last >>

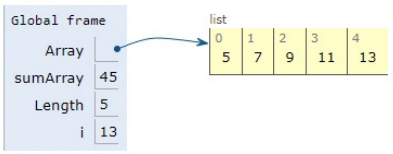
Done running (17 steps)

Customize visualization

Print output (drag lower right corner to resize)

```
[5, 7, 9, 11, 13]
5
45
```

Frames Objects



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Python 3.6
(known limitations)

```
1  array=[7,5,10,14,3,9,7]
2  array1=[9,10,3,4,2,5,7,1]
3  l=len(array)
4  l1=len(array1)
5  print(l,l1)
6  array.append(15)
7  print(array[7],array1[7])
8  array.append(1)
9  array1.append(14)
10 array2=array.copy()
11 array2.extend(array1)
12 count=array2.count(7)
13 array2.sort()
14 array2.remove(7)
15 array3=array2.copy()
16 array3.reverse()
17 print(array2)
18 print(array3)
```

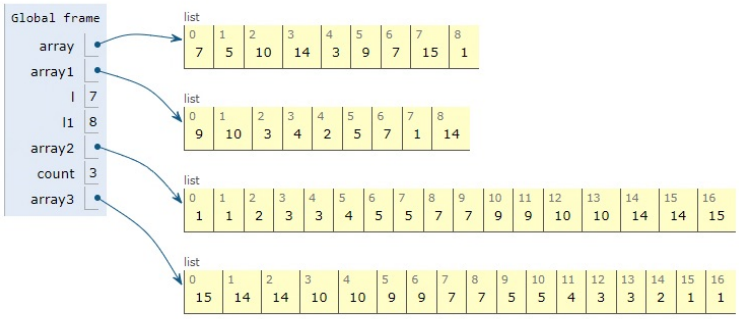
Edit this code

line that just executed

Print output (drag lower right corner to resize)

```
7 8
15 1
[1, 1, 2, 3, 3, 4, 5, 5, 7, 7, 9, 9, 10, 10, 1
[15, 14, 14, 10, 10, 9, 9, 7, 7, 5, 5, 4, 3, 3
```

Frames Objects



Python Tutor: Visualize code in Python, JavaScript, C, C++, and Java

Python 3.6
(known limitations)

```
1  array=['Number','Name','Count']
2  l=len(array)
3  print(l)
4  lo=array.index('Name')
5  array.append('Status')
6  print(lo)
```

Edit this code

line that just executed
next line to execute

<< First | < Prev | Next > | Last >>

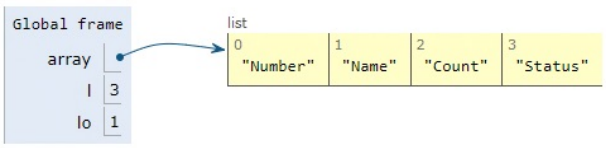
Done running (6 steps)

Customize visualization

Print output (drag lower right corner to resize)

```
3
1
```

Frames Objects



Python Tutor: Visualize code in Python, JavaScript, C, C++, and Java

Python 3.6
(known limitations)

```
1  a=['Number ID','Name','Count'],[]
2  a=list(a)
3  al=len(a)
4  print(al)
5
6  p=['Rubber',0,'Out of stock'],['Ruler',5,'In stock'],['
7  al=len(p)
8  for i in range(0,len(p)):
9      a[(len(a)-1)]=p[i].copy()
10     a.append([])
```

Edit this code

line that just executed
next line to execute

0

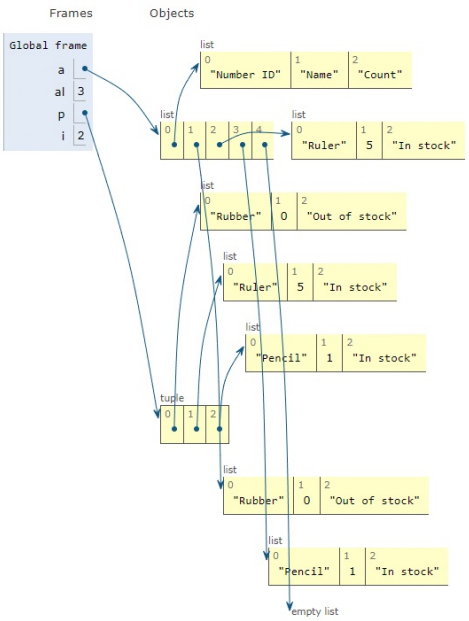
<< First | < Prev | Next > | Last >>

Done running (16 steps)

Customize visualization

Print output (drag lower right corner to resize)

```
2
```




```
1  a=['Number ID','Name','Count'],[]
2  a=list(a)
3  al=len(a)
4  print(al)
5  v=['Rubber',0,'Out of stock'],['Ruler',5,'In stock'],['Pencil',1,'In stoc
6  v=list(v)
7  for i in range(0,len(v)):
8      a[(len(a)-1)]=v[i].copy()
9      a.append([])
10 for i,j in enumerate(a):
11     if 'In stock' in j:
12         where=(i,j.index('In stock'))
13         print('In Stock index = '+str(where))
14 for i,j in enumerate(a):
15     if 'Out of stock' in j:
16         where=(i,j.index('Out of stock'))
17         print('Out of stock index = '+str(where))
18
19 for i,j in enumerate (a):
20     if 'In stock' in j:
21         if 'Ruler' in j:
22             a[2][1]-=1
23 if a[2][1] == 0:
24     del a[2][2]
25     a[2].insert(2,'Out of stock')
26
27 for i,j in enumerate (a):
28     if 'In stock' in j:
29         if 'Pencil' in j:
30             a[3][1]-=1
31 if a[3][1] == 0:
32     del a[3][2]
33     a[3].insert(2,'Out of stock')
34
35 for i,j in enumerate (a):
36     if 'In stock' in j:
37         if 'Pen' in j:
38             a[4][1]-=2
39 if a[4][1] == 0:
40     del a[4][2]
41     a[4].insert(2,'Out of stock')
42
43 for i,j in enumerate (a):
44     if 'In stock' in j:
45         if 'Coulour pencil' in j:
46             a[5][1]-=1
47 if a[5][1] == 0:
48     del a[5][2]
49     a[5].insert(2,'Out of stock')
50 del a[0]
51 print (a)
```

Print output (drag lower right corner to resize)

```
2
In Stock index = (2, 2)
In Stock index = (3, 2)
In Stock index = (4, 2)
In Stock index = (5, 2)
Out of stock index = (1, 2)
Out of stock index = (6, 2)
[['Rubber', 0, 'Out of stock'], ['Ruler', 4, 'In stock'], ['Pencil', 0, 'Out of stock'], ['Pen', 8, 'In stock'], ['Coulour pencil', 0, 'Out of stock'], ['A4 Paper', 0, 'Out of stock']
```