

LAB#02

Example#1: Declare at least three arrays in python each should have different data type:

Solution:

```
lab1q1.py > ...
1  from array import *
2  a1=array('i',[23,56,12,14,5])
3  a2=array('u',['A','B','C','D'])
4  a3=array('d',[33.22,2.1,5.9])
5  for x in a1:
6      print(x)
7  print(".....")
8  for x in a2:
9      print(x)
10 print(".....")
11 for x in a3:
12     print(x)
```

Result:

```
lab1q1.py
23
56
12
14
5
.....
A
B
C
D
.....
```

```
33.22  
2.1  
5.9
```

Example#2: Show the index number of any particular element of array a1 (defined above)

Solution:

```
1  from array import *  
2  a1=array('i',[23,56,12,14,5])  
3  print(a1.index(12))
```

Result:

```
2
```

Example#3: Accessing any specific element from the array by using its index number:

Solution:

```
1  from array import *  
2  a1=array('i',[23,56,12,14,5])  
3  print(a1[2])
```

Result:

```
12
```

Note: In python, array is a growable datatype

Example#4:

Append an element in an existing array.

Solution:

```
from array import *  
a1=array('i',[23,56,12,14,5])  
a1.append(17)  
for x in a1:  
    print(x)
```

Result:

```
23  
56  
12  
14  
5  
17
```

Example#5: Append a new array in the existing array.

Solution:

```
from array import *  
a1=array('i',[23,56,12,14,5])  
a2=array('i',[11,12,44])  
a1.extend(a2)  
for i in range (len(a1)):  
    print(a1[i],end=' ')
```

Result:

```
23 56 12 14 5 11 12 44
```

Example#6: Append a new element at some specific position in the existing array.

Solution:

```
from array import *  
a1=array('i',[23,56,12,14,5])  
index=0  
element=55  
a1.insert(index,element)  
for i in range (len(a1)):  
    print(a1[i],end=' ')
```

Result:

```
55 23 56 12 14 5
```

Example#7: Write a program to pop a value from an array.

Solution:

```
from array import *
a1=array('i',[23,56,12,14,5])
print('The elemnets in the array')
for x in a1:
    print(x)
popped_element = a1.pop()
print("Popped element:", popped_element)
print('Now the array is:')
for i in range (len(a1)):
    print(a1[i],end=' ')
```

Result:

```
The elemnets in the array
23
56
12
14
5
Popped element: 5
Now the array is:
23 56 12 14
```

Q.8: Write a program to remove any existing element from a program:

Solution:

```

from array import *
a1=array('i',[23,56,12,14,5,23])
print('The elements in the array:')
for x in a1:
    print(x)
a1.remove(56)
print('Now the array is:')
for i in range (len(a1)):
    print(a1[i],end=' ')

```

Result:

```

The elements in the array:
23
56
12
14
5
23
Now the array is:
23 12 14 5 23

```

Example#9: Write a program to reverse the elements in the array.

Solution:

```
from array import *
a1=array('i',[23,56,12,14,5])
print('The elements in the array:')
for i in range (len(a1)):
    print(a1[i],end=' ')
a1.reverse()
print(end='\n')
print('Now the array is:')
for i in range (len(a1)):
    print(a1[i],end=' ')
```

Result:

```
The elements in the array:
23 56 12 14 5
Now the array is:
5 14 12 56 23
```

Class Assignment

Q.1: Modify the example#6 Lab#2, insert at least three new elements e1, e2 and e3 at index number 0,2 and 4 respectively.

Q.2: Consider an array [33,44,55,33,80] then remove the element 33 from the list. Your resultant array should be [44,55,80].