

Lecture 10

Python array module helps us in creating arrays for integers and float.

**# Python code to demonstrate
searching an element in array**

```
# importing array module
import array
# initializing array with array values
# initializes array with signed integers
arr = array.array('i', [1, 2, 3, 1, 2, 5])
# printing original array
print ("The new created array is : ", end = "")
for i in range (0, 6):
    print (arr[i], end = " ")
print()
# using index() to print index of 1st occurrence of 2
print ("The index of 1st occurrence of 2 is : ", end = "")
print (arr.index(2))
# using index() to print index of 1st occurrence of 1
print ("The index of 1st occurrence of 1 is : ", end = "")
print (arr.index(1))
a=3
# using index() to print index of 1st occurrence of 3
print ("The index of 1st occurrence of 3 is : ", end = "")
print (arr.index(a))
```

**# Python code to demonstrate
how to update an element in array**

```
# importing array module
import array
# initializing array with array values
# initializes array with signed integers
arr = array.array('i', [1, 2, 3, 1, 2, 5])
# printing original array
print ("Array before updation : ", end = "")
for i in range (0, 6):
    print (arr[i], end = " ")
print()
# updating a element in a array
arr[2] = 6
print("Array after updation : ", end = "")
for i in range (0, 6):
    print (arr[i], end = " ")
```

```

print()
# updating a element in a array
arr[4] = 8
print("Array after updation : ", end = "")
for i in range (0, 6):
    print (arr[i], end = " ")

```

#Python code for inputting elements via keyboard

```

import array
int_array = array.array('i', [])
print("Enter elemnts")
# using append()
for i in range(1,5):
    int_array.append(int(input()))
for i in range(1,5):
    print(int_array[i-1], end=" ")

```

#Python array supports negative index

```

import array
int_array = array.array('i', [])
print("Enter elemnts")
# using append()
for i in range(1,5):
    int_array.append(int(input()))
for i in range(-4,0):
    print(int_array[i], end=" ")

```

#Reversing an Array

```

import array
int_array = array.array('i', [0, 1, 2, 3])
int_array.reverse()
print(int_array)

```

#Count of the Occurrence of an Element in array

```

import array
int_array = array.array('i', [0, 1, 1, 0])
print(int_array.count(1)) # 2
print(int_array.count(10)) #0

```

Extending an Array

```

import array

```

```

array1 = array.array('i', [0, 1])
array2 = array.array('i', [2, 3, 4])
array1.extend(array2)
print(array1) # array('i', [0, 1, 2, 3, 4])
print(array2) # array('i', [2, 3, 4])
array2.extend([1, 2])
print(array2) # array('i', [2, 3, 4, 1, 2])
array2.append(10)
print(array2) # array('i', [2, 3, 4, 1, 2, 10])

```

#Converting Array to List

```

import array
my_array = array.array('i', [0, 1, 2, 3])
my_list=my_array.tolist()
another_list1 = ['geeks', 'for', 'geeks']
my_list.append(another_list1)
print(my_list)
print(my_list[4])
for x in my_list:
    for y in x:
        print(y,end = " ")
    print()
my_array2 = array.array('i', [0, 1, 2, 3])
my_list2=my_array2.tolist()
another_list2 = ['g', 'f', 's']
my_list2.extend(another_list2)
print(my_list2)
print(my_list2[4])

```

**List contains homogeneous or heterogeneous elements, but arrays homogeneous only.
Allows duplicate members.**

Question:

1) Python program to find the count of all unique Elements in an array?

Eg: [10, 10, 4, 5, 6, 7, 5, 4, 8]

10=2, 4=2, 5=2, 6=1, 7=1, 8=1