

Arrays

Objective

- The objective of this lab is to understand the implementation of dynamic array.

Instructions

- You are not allowed to use the predefined (built-in) ArrayList structure as provided by JAVA.
 - The term “list” as used in some of the comments, refers to the user-defined class “MyArrayList” and does not mean the built in “ArrayList”.
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Task

1. Build a program to implement Dynamic Array (called as ArrayList in JAVA) where size of the array is resizable.

```
class MyArrayList{
    int[] arr;
    int currIndex;

    MyArrayList() { // default constructor to create an array
        arr = new int[10];
        currIndex=-1;
    }
    MyArrayList(int size) { // constructor to create an array
        arr = new int[size];
        currIndex=-1;
    }
    public void PrintList(){
        for(int i=0; i<arr.length;i++)
            System.out.println(arr[i]+"\\n");
    }

    public void InsertInOrder(int v) {
        if (list is full) {
            create new double size array
            copy data from old array to new array
            rename new array as old array name
        }

        if (list is empty){
            increment in current index and store the data
        }
        else{
            store data in the list in ascending order
        }
    }
}
```

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Data Structures (3+1)

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```
public int Length() {  
    // return length of occupied list  
}  
  
public int get(int index) {  
    // get element at given index location  
}  
  
  
  
public void Update (int index, int value) {  
    // update element at given location  
}  
  
public int Find (int value) {  
    // if the value found in array then return its index  
}  
  
public void Remove (int value) {  
    // first find the value in an array then delete the value through  
    // backward movement in an array.  
}  
}
```