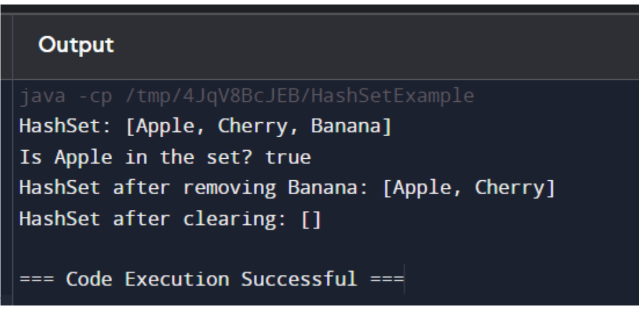
03-08-2024

Hashset

```
import java.util.HashSet;
public class HashSetExample{
    public static void main(String[] args){
        HashSet<String> set=new HashSet<>();
        set.add("Apple");
        set.add("Banana");
        set.add("Cherry");
        set.add("Apple");
        System.out.println("HashSet: "+set);
        System.out.println("Is Apple in the set? "+set.contains("Apple"));
        set.remove("Banana");
        System.out.println("HashSet after removing Banana: "+set);
        set.clear();
        System.out.println("HashSet after clearing: "+set);
    }
```



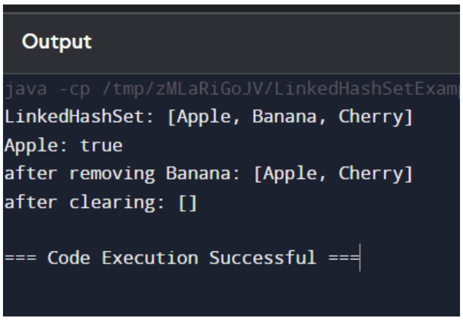
```
java -cp /tmp/4JqV8BcJEB/HashSetExample
HashSet: [Apple, Cherry, Banana]
Is Apple in the set? true
HashSet after removing Banana: [Apple, Cherry]
HashSet after clearing: []

=== Code Execution Successful ===
```

```
}
```

Linked hashset

```
import java.util.LinkedHashSet;
public class LinkedHashSetExample {
    public static void main(String[] args) {
        LinkedHashSet<String> set = new LinkedHashSet<>();
        set.add("Apple");
        set.add("Banana");
        set.add("Cherry");
        set.add("Apple");
        System.out.println("LinkedHashSet: " + set);
        System.out.println("Apple: " + set.contains("Apple"));
        set.remove("Banana");
        System.out.println("after removing Banana: "+set);
        set.clear();
        System.out.println("after clearing: "+set);
    }
}
```

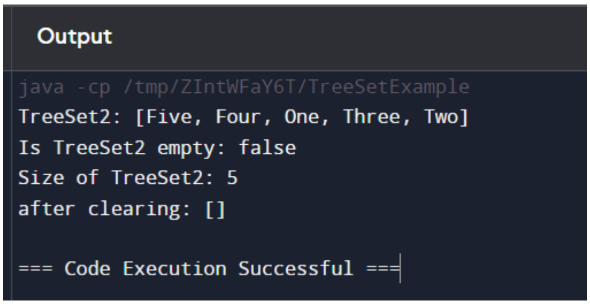


```
java -cp /tmp/zMLaRiGoJV/LinkedHashSetExam
LinkedHashSet: [Apple, Banana, Cherry]
Apple: true
after removing Banana: [Apple, Cherry]
after clearing: []

=== Code Execution Successful ===
```

Tree set

```
import java.util.TreeSet;
public class TreeSetExample{
    public static void main(String[] args){
        TreeSet<String> set2=new TreeSet<>();
        set2.add("One");
        set2.add("Two");
        set2.add("Three");
        set2.add("Four");
        set2.add("Five");
        System.out.println("TreeSet2: "+set2);
        System.out.println("Is TreeSet2 empty: " + set2.isEmpty());
        System.out.println("Size of TreeSet2: " + set2.size());
        set2.clear();
        System.out.println("after clearing: "+set2);
    }
}
```

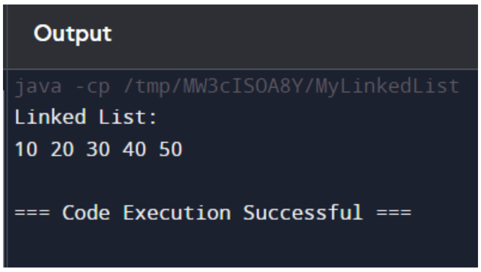


```
java -cp /tmp/ZIntWFaY6T/TreeSetExample
TreeSet2: [Five, Four, One, Three, Two]
Is TreeSet2 empty: false
Size of TreeSet2: 5
after clearing: []

=== Code Execution Successful ===
```

Create list using Linked List

```
class Node{
    int data;
    Node next;
    public Node(int data){
        this.data=data;
        this.next=null;
    }
}
public class MyLinkedList {
    Node head;
    public void addNode(int data){
        Node newNode=new Node(data);
        if (head==null){
            head=newNode;
        }
        else{
            Node temp=head;
            while(temp.next!=null){
                temp=temp.next;
            }
            temp.next=newNode;
        }
    }
    public void printList(){
        Node temp=head;
        while (temp!=null){
System.out.print(temp.data+" ");
            temp=temp.next;
        }
        System.out.println();
    }
    public static void main(String[] args){
        MyLinkedList list=new MyLinkedList();
        list.addNode(10);
        list.addNode(20);
        list.addNode(30);
        list.addNode(40);
        list.addNode(50);
        System.out.println("Linked List:");
        list.printList();
    }
}
```

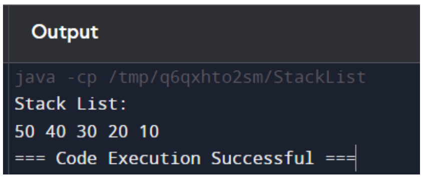


```
java -cp /tmp/MW3cISOA8Y/MyLinkedList
Linked List:
10 20 30 40 50

=== Code Execution Successful ===
```

Create list using Stack

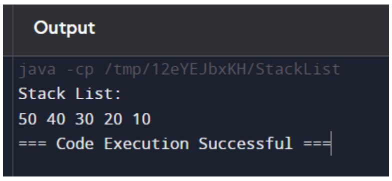
```
import java.util.Stack;
public class StackList{
    public static void main(String[] args){
        Stack<Integer> stack=new Stack<>();
        stack.push(10);
        stack.push(20);
        stack.push(30);
        stack.push(40);
        stack.push(50);
        System.out.println("Stack List:");
        printStack(stack);
    }
    public static void printStack(Stack<Integer> stack){
        while (!stack.isEmpty()) {
            System.out.print(stack.pop()+" ");
        }
    }
}
```



```
java -cp /tmp/q6qxhto2sm/StackList
Stack List:
50 40 30 20 10
=== Code Execution Successful ===
```

Create list using Vector

```
import java.util.Vector;
public class VectorList{
    public static void main(String[] args){
        Vector<Integer> vector=new Vector<>();
        vector.addElement(10);
        vector.addElement(20);
        vector.addElement(30);
        vector.addElement(40);
        vector.addElement(50);
        System.out.println("Vector List:");
        System.out.print(vector);
    }
}
```



```
java -cp /tmp/12eYEJbxKH/StackList
Stack List:
50 40 30 20 10
=== Code Execution Successful ===
```