17th November Lab Session
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```java
/*1. Develop a java class with a method storeEvenNumbers(int N) using ArrayList to store
even numbers from 2 to N, where N is a integer which is passed as a parameter to the
method storeEvenNumbers(). The method should return the ArrayList (A1) created.
2. In the same class create a method printEvenNumbers()which iterates through the
arrayList A1 in step 1, and It should multiply each number with 2 and display it in format
4,8,12….2*N. and add these numbers in a new ArrayList (A2). The new ArrayList (A2)
created needs to be returned.
3. Create a method retrieveEvenNumber(int N) parameter is a number N. This method
should search the arrayList (A1) for the existence of the number 'N' passed. If exists it
should return the Number else return zero.
Hint: Use instance variable for storing the ArrayList A1 and A2.
NOTE: You can test the methods using a main method.*/

package Array_assignment;
import java.util.ArrayList;
class Even_Print {
        ArrayList<Integer> A1 = new ArrayList<>(); //Creating first ArrayList with instance variable A1
        ArrayList<Integer> A2 = new ArrayList<>(); //Creating first ArrayList with instance variable A2
        //Creating first ArrayList method which returns all the even numbers from 2 to n in ArrayList A1
        public ArrayList<Integer> storeEvenNumbers(int N){
            for (int i = 2; i <= N; i++) {
                if (i%2 == 0) { A1.add(i);}
            }return A1;}
      //Creating second ArrayList method which returns all the even numbers*2 from 2 to n in ArrayList A2
        public ArrayList<Integer> printEvenNumbers(){
            for(int i : A1) { //traversing all the values of ArrayList A1 using for-each loop
                A2.add(i*2);
                System.out.print((i*2) + " ");}return A2;}
        //Creating a method which returns if the value is available in ArrayList or not
        public int retrieveEvenNumber(int N) {
            for(int j : A1) { //traversing all the values of ArrayList A1
                if(j==N) {
                    System.out.println("\nNumber found: " + j);return j;}}
            System.out.println("\nNumber not found: " + 0);
            return 0;}}
        // Main Class
        public class Even_Print_ArrayList {
            public static void main(String[] args) {
                Even_Print EP = new Even_Print(); //Calling class and methods in main class and method
                EP.storeEvenNumbers(30);
                EP.printEvenNumbers();
                EP.retrieveEvenNumber(25);
            }}
```

Problems Javadoc Declaration Console

```
<terminated> Even_Print_ArrayList [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (Nov 17, 2022, 5:38:45 AM – 5:38:46 AM) [pid: 3788]
4 8 12 16 20 24 28 32 36 40 44 48 52 56 60
Number not found: 0
```

```java
//Problem Statement: Write a Java program to extract a portion of an array list.

package Array_assignment;
public class Extract_Array {
    public static void main(String[] args) {
        String arr[] = {"RED", "GREEN", "ORANGE", "WHITE", "BLACK"};
        System.out.println("After extaction the portion is: ");
        for(int i=0; i<=2; i++ ) { System.out.print(arr[i]+" ");}
    }}
```

Problems Javadoc Declaration Console

```
<terminated> Extract_Array [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe (Nov 17, 2022, 5:43:42 AM – 5:43:42 AM) [pid: 1828]
After extaction the portion is:
RED GREEN ORANGE
```

```java
//Problem Statement: Write a Java program to compare two array lists.

package Array_assignment;
public class Compare_Array {
    public static void main(String[] args) {
        String fa[]= {"RED", "GREEN", "BLACK", "PINK"}; //First Array
        String sa[]= {"RED", "GREEN", "BLACK", "WHITE", "PINK"}; //Second Array
        for(int i=0; i<fa.length; i++) { //Traversing through first array
            for(int j=i; j<sa.length; j++) { //Traversing through second array
                if(fa[i]==sa[j]) {
                    System.out.print("Yes.");
                    break;}
                else { System.out.print("No.");}}}}}
```

Problems Javadoc Declaration Console

```
<terminated> Compare_Array [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (Nov 17, 2022, 5:44:39 AM – 5:44:41 AM) [pid: 3148]
Yes.Yes.Yes.No.Yes.
```

```java
//Problem Statement: Write a Java program to insert the specified element at the front of a linked list.

package Linked_List;
import java.util.LinkedList;
public class Insert_ele {
    public static void main(String[] args) { //Main Method
        LinkedList<String> ll = new LinkedList<>(); //Creating LinkedList
        ll.add("You"); ll.add("have"); ll.add("entered"); ll.add("a"); ll.add("Linked"); ll.add("List"); //Add value
        System.out.println("Before inserting: "+ ll); //Print
        ll.addFirst("Now"); //Adding first element on LinkedList
        System.out.println("After inserting: "+ ll); //Print
    }}
```

Problems Javadoc Declaration Console

```
<terminated> Insert_ele [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (Nov 17, 2022, 5:45:58 AM – 5:45:58 AM) [pid: 4060]
Before inserting: [You, have, entered, a, Linked, List]
After inserting: [Now, You, have, entered, a, Linked, List]
```

```java
//Write a Java program to replace an element in a linked list.

package Linked_List;
import java.util.LinkedList;
public class Replace_ele {
    public static void main(String[] args) {
        LinkedList<String> ll = new LinkedList<>(); //Creating LinkedList
        ll.add("You"); ll.add("have"); ll.add("entered"); ll.add("a"); ll.add("Linked"); ll.add("List"); //Add value
        System.out.println("Before inserting: "+ll); //Print
        ll.set(3, "special"); //Replacing a LinkedList value
        System.out.println("After replaceing: "+ll); //Print
    }}
```

Problems Javadoc Declaration Console

```
<terminated> Replace_ele [Java Application] C:\Program Files\Java\jdk-19\bin\javaw.exe  (Nov 17, 2022, 5:46:29 AM – 5:46:29 AM) [pid: 3568]
Before inserting: [You, have, entered, a, Linked, List]
After replaceing: [You, have, entered, special, Linked, List]
```