

Name (( SHADI ADNAN TAHA AL MAQTARY )) .

## LAP 2

### 1 – reverse array .

```
2      * Created by shady2 on 07/02/21.
3
4      public class arr {
5          static void reverse_array(int array[], int n)
6          {
7              int[] dest_array = new int[n];
8              int j = n;
9              for (int i = 0; i < n; i++) {
10                 dest_array[j - 1] = array[i];
11                 j = j - 1;
12             }
13             System.out.println("Reversed array: ");
14             for (int s = 0; s < n; s++) {
15                 System.out.print(dest_array[s] + " ");
16             }
17         }
18         public static void main(String[] args)
19         {
20             int [] array = {1,2,3,4,5};
21             System.out.println("Original array: ");
22             for (int s = 0; s < array.length; s++) {
23                 System.out.print(array[s] + " ");
24             }
25             System.out.println();
26             reverse_array(array, array.length);
27         }
28     }
29 }
```

Run arr

```
"C:\Program Files (x86)\Java\jdk1.8.0_101\bin\java" ...
Original array:
1 2 3 4 5
Reversed array:
5 4 3 2 1
Process finished with exit code 0
```

## 2- Clone array .

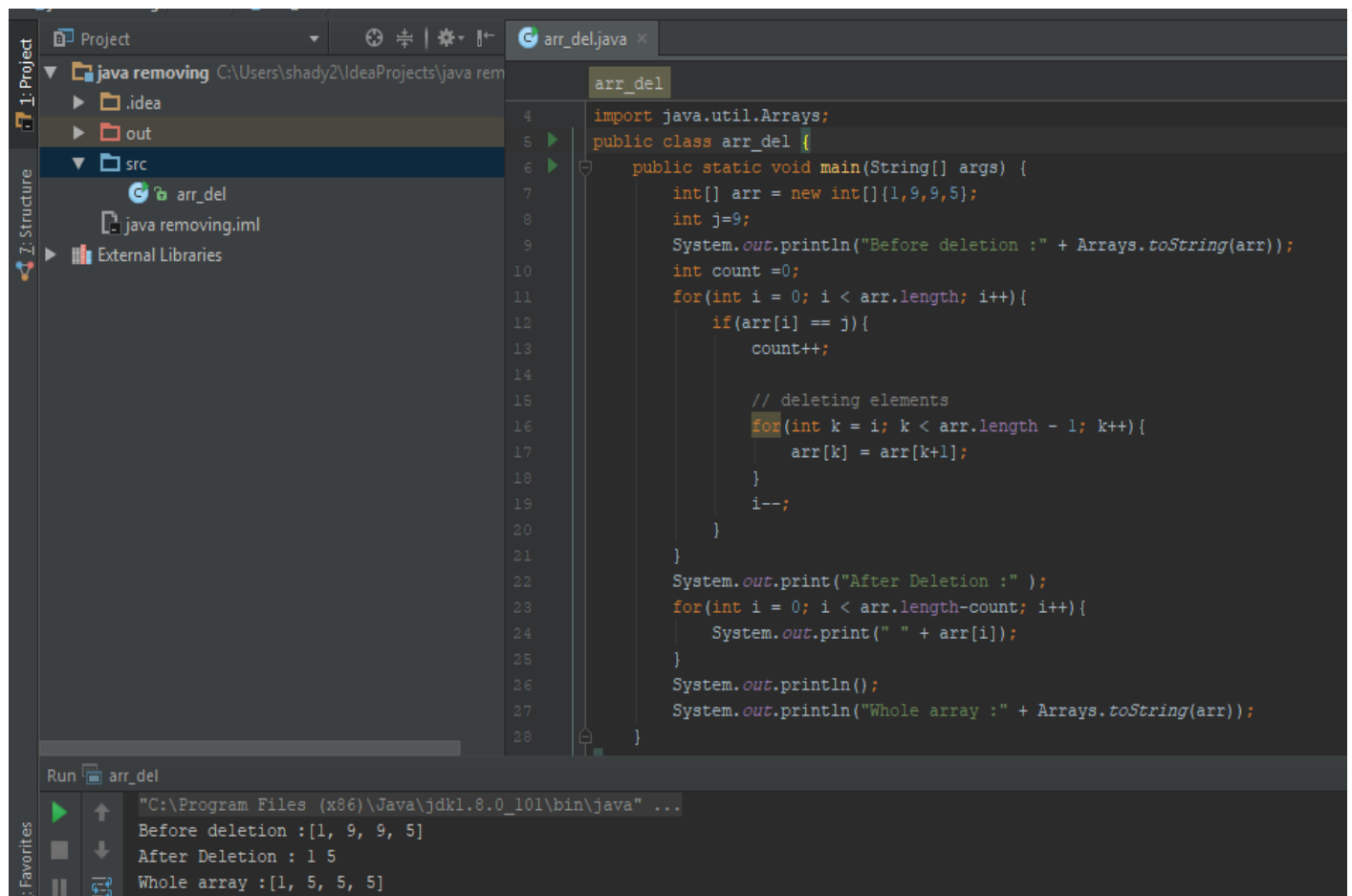
```
Project
task clone C:\Users\shady2\IdeaProjects\task clone
  .idea
  out
  src
    arr_clon
    task clone.iml
  External Libraries

arr_clon.java
1  /**
2   * Created by shady2 on 07/02/21.
3   */
4  class arr_clon {
5      public static void main(String args[])
6      {
7          int num_Array[] = {7,22,1,5,2,9};
8
9          int clone_Array[] = num_Array.clone();
10
11         System.out.println("Original num_Array:");
12         for (int i = 0; i < num_Array.length; i++) {
13             System.out.print(num_Array[i]+" ");
14         }
15         System.out.println();
16
17         System.out.println("Cloned num_Array:");
18         for (int i = 0; i < clone_Array.length; i++) {
19             System.out.print(clone_Array[i]+" ");
20         }
21     }
22 }
23 }
```

arr\_clon

```
"C:\Program Files (x86)\Java\jdk1.8.0_101\bin\java" ...
Original num_Array:
7 22 1 5 2 9
Cloned num_Array:
7 22 1 5 2 9
Process finished with exit code 0
```

### 3- remove array elements .



```
arr_del
4 import java.util.Arrays;
5 public class arr_del {
6     public static void main(String[] args) {
7         int[] arr = new int[]{1,9,9,5};
8         int j=9;
9         System.out.println("Before deletion :" + Arrays.toString(arr));
10        int count =0;
11        for(int i = 0; i < arr.length; i++){
12            if(arr[i] == j){
13                count++;
14
15                // deleting elements
16                for(int k = i; k < arr.length - 1; k++){
17                    arr[k] = arr[k+1];
18                }
19                i--;
20            }
21        }
22        System.out.print("After Deletion : " );
23        for(int i = 0; i < arr.length-count; i++){
24            System.out.print(" " + arr[i]);
25        }
26        System.out.println();
27        System.out.println("Whole array :" + Arrays.toString(arr));
28    }
}
```

Run arr\_del

```
"C:\Program Files (x86)\Java\jdk1.8.0_101\bin\java" ...
Before deletion :[1, 9, 9, 5]
After Deletion : 1 5
Whole array :[1, 5, 5, 5]
```

4-repeatedly selects an removes a random .

```

arr_rand.java x
arr_rand removeElements()
3  * Created by shady2 on 08/02/21.
4  */
5  import java.util.Arrays;
6  import java.util.List;
7  import java.util.Random;
8  import java.util.stream.Collectors;
9  public class arr_rand {
10 public static void main(String[] args) {
11     int[] array = { 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 };
12     removeElements(array);
13     public static void removeElements (int[] arr) {
14         Random random = new Random();
15         List<Integer> list = Arrays.stream(arr).boxed().collect(Collectors.toList());
16         int length = arr.length;
17         while (length > 0) {
18
19             System.out.println("Size: " + list.size());
20             if (list.size() == 1) {
21                 int randomIndex = random.nextInt(list.size());
22                 list.remove(randomIndex);
23                 System.out.println("Size:--> " + list.size());
24                 break;
25             } else {
26                 int randomIndex = random.nextInt(list.size() - 1);
27                 if (arr == null || randomIndex > arr.length) {
28                     System.out.println("No Elements to be deleted");
29                 }
30                 list.remove(randomIndex);
31                 System.out.println("Removed Element: " + list.get(randomIndex));
32                 length--;
33                 if (length == 0)
34                     break;
35             }
36         }
37     }
38 }

```

```

untitled7 - src - arr_rand.java x
Project
  untitled7 C:\Users\shady2\IdeaProjects\untitled7
    .idea
    out
    src
      arr_rand
      untitled7.iml
    External Libraries
Run arr_rand
"C:\Program Files (x86)\Java\jdk1.8.0_101\bin\java" ...
Size: 10
Removed Element: 3
Size: 9
Removed Element: 9
Size: 8
Removed Element: 0
Size: 7
Removed Element: 3
Size: 6
Removed Element: 7
Size: 5
Removed Element: 4
Size: 4
Removed Element: 7
Size: 3
Removed Element: 0
Size: 2
Removed Element: 0
Size: 1
Size:--> 0
Process finished with exit code 0

```