

Lab9

Programming Fundamentals (CS-130)

FA22

Total=100

1. Which of these standard collection classes implements a dynamic array?
- a) AbstractList
 - b) LinkedList
 - c) ArrayList
 - d) AbstractSet

```
import java.util.ArrayList;
import java.util.List;

public class Test {
    public static void main(String[] args) {
        List<String> al = new ArrayList<String>();
        al.add("A");
        al.add("B");
        al.add("A");
        al.add("B");
        al.add("A");

        al.remove("A");
        System.out.println(al);
    }
}
```

2.

- a) [B, B]
- b) [B, A, B, A]
- c) [A, B, A, B]
- d) None of these

```
import java.util.ArrayList;
import java.util.List;

public class Test {
    public static void main(String[] args) {
        List<String> al = new ArrayList<String>();
        al.add("A");
        al.add("B");
        al.add("A");
        al.add("B");
        al.add("A");

        al.remove(3);
        System.out.println(al);
    }
}
```

3.

- a) Compile time error
- b) [A, B, A, B]
- c) [A, B, A, A]
- d) None of these

```
import java.util.ArrayList;
import java.util.List;

public class Test {
    public static void main(String[] args) {
        List<String> al = new ArrayList<String>();
        al.add("A");
        al.add(4, "V");
        System.out.println(al);
    }
}
```

4.

- a) [A, V]
- b) [A, null, null, null, V]
- c) Compile time error
- d) IndexOutOfBoundsException

```
import java.util.ArrayList;
import java.util.List;

public class Test {
    public static void main(String[] args) {
        List<String> al = new ArrayList<String>();
        al.add("A");
        al.add("B");
        al.add("A");
        al.add(null);
        System.out.println(al);
    }
}
```

5.

- a) Compile time error
- b) [A, B, null]
- c) [A, B]
- d) [A, B, A, null]

```
import java.util.*;
class ArrayList
{
    public static void main(String args[])
    {
        ArrayList obj = new ArrayList();
        obj.add("A");
        obj.add("B");
        obj.add("C");
        obj.add(1, "D");
        System.out.println(obj);
    }
}
```

6.

- a) [A, B, C, D]
- b) [A, D, B, C]
- c) [A, D, C]
- d) [A, B, C]

```

import java.util.*;
class Output
{
    public static void main(String args[])
    {
        ArrayList obj = new ArrayList();
        obj.add("A");
        obj.add(0, "B");
        System.out.println(obj.size());
    }
}

```

7.

- a) 0
- b) 1
- c) 2
- d) Any Garbage Value

8. Write a Java program that keeps a number from the user and generates an integer between 1 and 7 and displays the name of the weekday (switch case).

Test Data:

Input number: 3

Expected Output : Wednesday

9. Write a Java program to find the number of days in a month. Switch the month and put year in case. Make sure check February whether its leap year or regular year (switch case with condition check for the month of February).

Test Data

Input a month number: 2

Input a year: 2016

Expected Output : February 2016 has 29 days

Example:

```

switch (month) {
    case 1:
        MonthOfName = "January";
        number_Of_DaysInMonth = 31;
        break;

```

10. Write a program in Java to input 5 numbers from keyboard and find their sum and average.

Input the 5 numbers :

1
2
3
4
5

The sum of 5 no is : 15

The Average is : 3.0

11. Create an ArrayList called new_list and add <23,8,31, 45, 6, 7, 19, 15>
Iterate through the list and print all the numbers that is more than 10 but lesser than 20.
Carefully use **.remove()** function as this will remove the number from the list.

12.

Write a Java program to search color "Red" in the arraylist.

Use **.contains()** method.

ArrayList contains() method in Java is used for checking if the specified element exists in the given list or not.

