1. Write a program to create an arraylist of double element and add the elements. Sort the elements in descending order and print it.

```
import java.util.ArrayList;
import java.util.Collections;
import java.util.Scanner;

public class Sba1_01 {

	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter the number of elements you want ::");
		int n = sc.nextInt(), sum = 0;
		System.out.println("Enter " + n + " double values::");
		ArrayList<Double> ard = new ArrayList<Double>();
		for (int i = 0; i < n; i++) {
		   ard.add(sc.nextDouble());
		}
		System.out.println("\nOriginal arraylist :: " + ard);

		// adding the elements
		for (Double d : ard) {
		   sum += d;
		}
		System.out.println("\nSum of all elements in the arraylist = " + sum);

		// sorting the array-list
		Collections.sort(ard, Collections.reverseOrder());
		System.out.println("\nSorted arraylist :: " + ard);
		sc.close();
	  }
}
```

Output :

```
Enter the number of elements you want ::
8
Enter 8 double values::
5.6
4.2
3.8
2.5
9.7
7.1
3.5
1.0

Original arraylist :: [5.6, 4.2, 3.8, 2.5, 9.7, 7.1, 3.5, 1.0]

Sum of all elements in the arraylist = 34

Sorted arraylist :: [9.7, 7.1, 5.6, 4.2, 3.8, 3.5, 2.5, 1.0]
```

2. Create an arraylist of integers and find the sum and average of the entire list.

```
import java.util.ArrayList;
import java.util.Scanner;

public class Sba1_02 {

	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter the number of elements you want ::");
		int n = sc.nextInt(), sum = 0;
		double avg = 0;
		System.out.println("Enter " + n + " integer values::");
		ArrayList<Integer> ard = new ArrayList<Integer>();
		for (int i = 0; i < n; i++) {
			ard.add(sc.nextInt());
		}
		System.out.println("\nOriginal arraylist :: " + ard);
		// finding sum
		for (int i : ard) {
			sum += i;
		}
		System.out.println("\nSum of all elements in the arraylist = " + sum);
		// finding average
		avg = (double) sum / ard.size();
		System.out.println("\nAverage of all elements = " + avg);

		sc.close();
	}
}
```

Output :

```
Enter the number of elements you want ::
7
Enter 7 integer values::
12
8
6
21
10
2
13

Original arraylist :: [12, 8, 6, 21, 10, 2, 13]

Sum of all elements in the arraylist = 72

Average of all elements = 10.285714285714286
```

3. Create two arraylist of strings to take First name and Last name of the students, and print their whole name.

```
import java.util.ArrayList;
import java.util.Scanner;

public class Sba1_03 {

	public static void main(String[] args) {
		ArrayList<String> Fst_n = new ArrayList<String>();
		ArrayList<String> Lst_n = new ArrayList<String>();
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter number of students :");
		int n = sc.nextInt();
		for (int i = 1; i <= n; i++) {
			System.out.println("Enter First_name of student #" + i + " ::");
			Fst_n.add(sc.next());
			System.out.println("Enter Last_name of student #" + i + " ::");
			Lst_n.add(sc.next());
		}

		// Print full-name
		for (int i = 0; i < n; i++) {
			System.out.println("\nFull name of Student #" + (i + 1) + " ::" + Fst_n.get(i) + "
" + Lst_n.get(i));

		}
		sc.close();
	}

}
```

Output :

```
Enter number of students :
5
Enter First_name of student #1 ::
James
Enter Last_name of student #1 ::
Martin
Enter First_name of student #2 ::
Tom
Enter Last_name of student #2 ::
Hardy
Enter First_name of student #3 ::
Sandra
Enter Last_name of student #3 ::
Wilson
```

```
Enter First_name of student #4 ::
Chris
Enter Last_name of student #4 ::
Rock
Enter First_name of student #5 ::
Akshay
Enter Last_name of student #5 ::
Kumar

Full name of Student #1 ::James Martin

Full name of Student #2 ::Tom Hardy

Full name of Student #3 ::Sandra Wilson

Full name of Student #4 ::Chris Rock

Full name of Student #5 ::Akshay Kumar
```

4. Write a program to check for the occurrence of a particular character in a string and display how many times it has occurred.

```
import java.util.Scanner;

public class Sba1_04 {

		public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);

		System.out.println("Enter a string: ");
		char[] str = sc.next().toCharArray();

		System.out.println("Enter a char: ");
		char ch = sc.next().charAt(0);

		int count = 0;
		for (char c : str) {
			if (c == ch) {
				count++;
			}
		}

		System.out.println(ch + " is present " + count + " times.");

		sc.close();
	}
}
```

Output :

```
Enter a string:
peacekeepers
Enter a char:
e
e is present 5 times.
```

5. Write a program to take an input of a string with multiple words and convert it into a string array, and check if every element of that array is a Palindrome.

```
import java.util.Scanner;

public class Sba1_05 {

	static boolean CheckPalindromeStr(String str) {
		char[] arr = str.toCharArray();
		char[] rev = new char[arr.length];
		for (int i = arr.length - 1, j = 0; i >= 0; i--) {
			rev[j] = arr[i];
			j++;
		}

		String newStr = new String(rev);

		return str.equalsIgnoreCase(newStr);

	}

	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("Enter a string with multiple words: ");
		String sentence = sc.nextLine();
		String[] strArr = sentence.split(" ");
		System.out.println("\n");
		for (String s : strArr) {
			if (CheckPalindromeStr(s)) {
				System.out.println(s + " is a PALINDROME.\n");
			} else {
				System.out.println(s + " is NOT a palindrome.\n");
			}
		}
		sc.close();
	}

}
```

Output :

```
Enter a string with multiple words:
read look slep noon night eve tenet radar deed rotator take

read is NOT a palindrome.

look is NOT a palindrome.

slep is NOT a palindrome.

noon is a PALINDROME.

night is NOT a palindrome.

eve is a PALINDROME.

tenet is a PALINDROME.

radar is a PALINDROME.

deed is a PALINDROME.

rotator is a PALINDROME.

take is NOT a palindrome.
```