# Activity 5 – Array Exercises

**Example 1: Accessing Array Elements**

```java
class Main {
 public static void main(String[] args) {

   // create an array
   int[] age = {12, 4, 5, 2, 5};

   // access each array elements
   System.out.println("Accessing Elements of Array:");
   System.out.println("First Element: " + age[0]);
   System.out.println("Second Element: " + age[1]);
   System.out.println("Third Element: " + age[2]);
   System.out.println("Fourth Element: " + age[3]);
   System.out.println("Fifth Element: " + age[4]);
 }
}
```
Run Code

## Output

```
Accessing Elements of Array:
First Element: 12
Second Element: 4
Third Element: 5
Fourth Element: 2
Fifth Element: 5
```

**Example 2: Print Array Elements (Using For-Each)**

```java
// print array elements

class Main {
  public static void main(String[] args) {

    // create an array
    int[] numbers = {3, 9, 5, -5};

    // for each loop
    for (int number: numbers) {
      System.out.println(number);
    }
```

```
  }
}
```

## Example 3: Sum of Array Elements (Using For-Each) – Array Provided

```java
// Calculate the sum of all elements of an array

class Main {
 public static void main(String[] args) {

    // an array of numbers
    int[] numbers = {3, 4, 5, -5, 0, 12};
    int sum = 0;

    // iterating through each element of the array
    for (int number: numbers) {
      sum += number;
    }

    System.out.println("Sum = " + sum);
 }
}
```

## Example 4: Sum of Array Elements (Using For-Each) – Array Created in progam

```java
1. import java.util.Scanner;
2. public class Array_Sum
3. {
4.     public static void main(String[] args)
5.     {
6.         int n, sum = 0;
7.         Scanner s = new Scanner(System.in);
8.         System.out.print("Enter size of the array:");
9.         n = s.nextInt();
10.         int a[] = new int[n];
11.         System.out.println("Enter array elements:");
12.         for(int i = 0; i < n; i++)
13.         {
14.             a[i] = s.nextInt();
15.             sum = sum + a[i];
16.         }
17.         System.out.println("Sum of the array is:"+sum);
18.     }
19. }
```

## Program Explanation

1. The program starts by importing the **java.util.Scanner class**, which will be used to read user input.

2. In the main method, the program declares two integer variables: "**n**" and "**sum**". "**n**" will be used to store the number of elements in the array and "**sum**" will be used to store the sum of all elements in the array.

3. The program creates an instance of the Scanner class named "**s**" and uses it to prompt the user to enter the number of elements they want in the array.

4. The user's input is then read using the **nextInt()** method of the Scanner class and stored in the "**n**" variable.

5. The program creates an integer array named "**a**" with a length of "**n**".

6. The program then prompts the user to enter all the elements of the array and reads each element using a for loop that iterates from 0 to n-1.

7. Within the loop, the user's input is stored in the "**a**" array and added to the "**sum**" variable.

8. Once all elements have been read and added to the sum, the program prints the sum of all elements in the array to the console using the System.out.println() method.

**Program 1**

1. Create and array for the following: Volvo, BMW, Ford, Mazda
2. Output each value from the array.

**Program 2**

1. Create and array for the following student marks: 2, -9, 0, 5, 12, -25, 22, 9, 8, 12.
2. Calculate the total and average of the marks.

**Program 3**

Write a program to find and output the largest element in the list: 10, 324, 45, 90, 9808.