CSE 1001: Introduction to Computer Programming

Practice Questions

(One Dimensional Array)

Question-1:

Write a java program to create an array of size *N* and store the random values between 1 to N in it and find the sum and average.

Question-2:

Write a java program to create an array of size *N* and store the random values between 1 to 100 in it and print the number of prime numbers present in the array.

Sample run:

```
Enter number of elements 5

Enter Array elements:

11   22   33   39   43

The number of prime numbers are 2.
```

Question-3:

Write a java program using an array that reads the integers between 1 and 100 and counts the occurrences of each. Assume the input ends with 0.

Sample run:
Enter the integers between 1 and 100: 2 5 6 5 4 3 23 43 2 0
2 occurs 2 times
3 occurs 1 time
4 occurs 1 time
5 occurs 2 times
6 occurs 1 time
23 occurs 1 time
43 occurs 1 time
Note: If a number occurs more than one time, the plural word "times" is used in the output.

Question-4:

Write a method to find the smallest element present in the Array. The method header is given below.

public static double min(double[] array)

Write a java program that prompts the user to enter ten numbers, invokes this method to return the minimum value, and displays the minimum value. Here is a sample run of the program:

Sample run:

```
Enter ten numbers: 1.9 2.5 3.7 2 1.5 6 3 4 5 2
The minimum number is: 1.5
```

Question-5:

Write a method to find the largest element present in the Array. The method header is given below.

public static int max(int[] array)

Write a java program that prompts the user to enter 5 numbers, invokes this method to return the maximum value, and displays the maximum value. Here is a sample run of the program:

Sample run:

```
Enter five numbers: 9 5 7 2 3
The maximum number is: 9
```

Question-6:

Write a method to find the second smallest element present in the Array. The method header is given below.

public static double sec_small(double[] array)

Write a java program that prompts the user to enter ten numbers, invokes this method to return the second minimum value, and displays the second minimum value. Here is a sample run of the program:

Sample run:

```
Enter ten numbers: 1.9 2.5 3.7 2 1.5 6 3 4 5 2
The second minimum number is: 1.9
```

Question-7:

Write a method to find the second largest element present in the Array. The method header is given below.

public static int sec_max(int[] array)

Write a java program that prompts the user to enter 5 numbers, invokes this method to return the maximum value, and displays the maximum value. Here is a sample run of the program:

Sample run:

```
Enter ten numbers: 9 5 7 2 3
The second maximum number is: 7
```

Question-8:

Write a java program that implements the array reversal algorithm suggested in *Note 1*.

Note 1: There is a simpler algorithm for array reversal that starts out with two indices, i=0 and j=n-1. With each iteration i is increased and j is decreased for i<j.

Question-9:

Write a method to find the element present in the Array using Linear Search. The method header is given below.

```
public static int Lsearch(int[] array, item)
```

The method will return the index of the item if the element is present in the array. Otherwise it will return -1. Write a java program that prompts the user to enter 5 numbers, and the item to search, then invokes this method to display whether the element is present in the array. Here is a sample run of the program:

Sample run:

```
Enter ten numbers: 9 5 7 2 6

Enter the item to search: 7
The element is present in the array at position: 3
```

Question-10:

Design and develop a menu driven java program for the following array operations.
a. Create an array of *N* integers
b. Display the array elements
c. Insert an element at specific position
d. Delete an element at a given position
e. Exit

****