ASSIGNMENT (8)
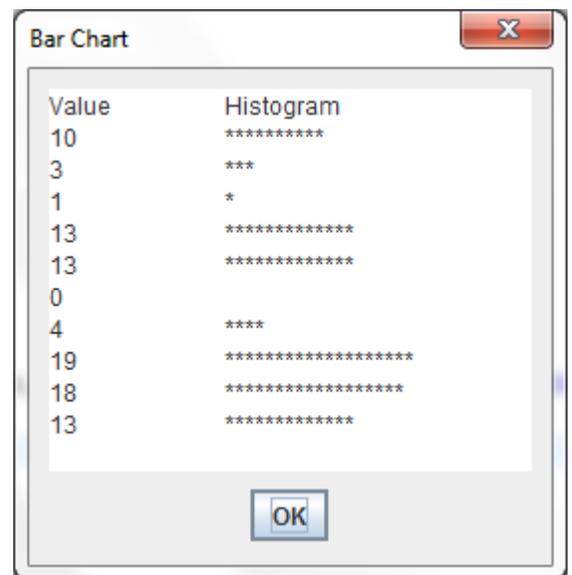
1. Write a program to define an array of integers, in which the size of the array is entered by the user. The program asks the user to input the values of the array, and then prints the array in a reversed order.

2. Write a program to define an array of 15 integers, in which the user enters positive and negative values. The program then prints the positive values only.

3. Write a program that defines an array which represents the marks of the students registered in a course, in which the number of students is entered by the user. The user also inputs their marks, and the program should print the average of these marks, and also prints the number of students whose marks are above this average, as well as the number of students who failed.

4. Write a program that defines an array of 10 elements which represent the marks of 10 students. The user inputs these marks, and the program should print the highest mark and the lowest mark.

5. Write a program to define three arrays of the same size, in which their size is entered by the user. The first two arrays are entered by the user and the program prints the third array which contains the maximum of the first two arrays.

6. Write a program that asks the user to enter 10 integers in an array. Then the program asks the user to enter a number, and prints a message for the user telling him whether this number exists in the array or not. If this number was found in the array, the program also prints the index of the number (the index is the location within the array).

7. Write a program to define three arrays. The first two arrays contain 5 integers entered by the user. These two arrays are then concatenated (merged) and placed in the third array which contains 10 integers (i.e. 5 integers from the first array and the other 5 from the second array).

8. Modify the previous program to merge two arrays whose sizes are entered by the user (i.e. they may have different sizes).

9. Write a program that sorts the values of a 10-element array in a descending order. The program should print the array before and after sorting it. Also, the program should print the highest three numbers.

10. Write a program that defines an array of 10 integers entered by the user. The program prints a histogram that graphically represents these values. Plot each numeric value as a bar of asterisks (*), as shown.

Bar Chart	
Value	Histogram
10	**********
3	***
1	*
13	*************
13	*************
0	
4	****
19	*******************
18	******************
13	*************

OK

11. A number of students are registered in the programming course, in which the user enters the number of students. For each student, the professor enters the marks of the 7th week exam (out of 30), the 12th week exam (out of 20), the participation (out of 10), and the final exam (out of 40). Write a Java program that calculates the total mark of the students (out of 100), and then prints the grades sheet which should look like the following example:

Programming Grades Sheet

7th	12th	Participation	Final	Total
24	11	9	26	70
17	10	6	27	60
26	14	8	24	72
19	19	8	25	71
17	16	5	24	62
15	11	8	39	73
26	10	7	28	71
22	11	5	29	67
16	13	6	25	60
20	14	8	20	62

OK

12. Modify the previous program to display the name of each student beside his/her grades, in which the students' names are entered by the professor along with their grades. The program should also print the average of each exam. The grades sheet should look like the following example:

Name	7th	12th	Participation	Final	Total
Abdelrahman	23	10	6	37	76
Abubakr	27	15	9	30	81
Ahmed Ali	28	15	8	38	89
Ahmed Khaled	28	12	5	39	84
Aya Ehab	29	16	7	26	78
Ayatullah	29	12	6	33	80
Eman	25	11	7	29	72
Farah	28	15	6	31	80
Hanan	23	19	7	33	82
Mahmoud	20	11	7	26	64
Mohamed	27	19	6	32	84
Muazu	25	18	8	36	87
Najeeb	29	10	5	27	71
Naseem	20	19	5	33	77
Ola	28	19	7	37	91
Raouf	29	10	7	27	73
Sarah Anwar	24	13	7	37	81
Sarah Sherif	29	14	5	26	74
Sherif	24	14	7	27	72
Younis	21	17	8	30	76
Average	25.800	14.450	6.650	31.700	78.600

Programming Grades Sheet

OK