**Arrays**

1. Write a program that reads a 2-D integer array with each element of maximum 2 digits and prints the following:
2. Elements of the entered array.
3. Elements of the array after each element is multiplied by 2 if it is an odd number.

Definition of Done:

1. The program should generate an error message if the number of digits in the array is more than two and ask the user to re-enter the number.
2. The program should use *continue* statement for ignoring even elements.
3. The array elements should be displayed in tabular form with width set to 5.
4. Write a Java program to read numbers in an integer array of size 5 and display the following (using functions for each functionality):
5. its elements.
6. Sum of all the elements
7. Largest number in the array
8. Smallest number in the array
9. Second largest number in the array
10. Sum of alternate elements in the array
11. Count of even numbers in the array
12. Occurrence of a given number in the array and its frequency

Definition of Done

1. The program should ask user to enter the elements of the array.
2. The program should display a menu with the above choices and ask the user to choose one of the choices.
3. The program should display the result based on the choice.
4. After a successful run, the program should ask the user if he wants to try the program for some other array, and should exit only when the user wants to exit (by pressing the character ‘N’).
5. Use a two-dimensional array to solve the following problem: A company has four salespeople (1 to 4) who sell five different products (1 to 5). Once a day, each salesperson passes in a slip for each type of product sold. Each slip contains the following:

a) The salesperson number

b) The product number

c) The total dollar value of that product sold that day

Thus, each salesperson passes in between 0 and 5 sales slips per day. Assume that the information from all the slips for last month is available. Write an application that will read all this information for last week’s sales and summarize the total sales by salesperson and by product.

Definition of Done:

1. All totals should be stored in the two-dimensional array sales.
2. Results should be displayed in a tabular format, with each column representing a salesperson and each row representing a particular product.
3. Cross-total of each row should get the total sales of each product for last week.
4. Cross-total of each column should get the total sales by the salesperson for last week. The output should include these cross-totals to the right of the totalled rows and to the bottom of the totalled columns.
5. Write a program that uses a two-dimensional float array *grades* to store the grades of students on multiple exams. There are a total of 10 students and 5 subjects. A student can opt for any number of courses with a minimum of 2 and maximum of 5 subjects. Each row of the array represents grades of a single student for the entire set of subjects opted by him, and each column represents the grades of all the students who took a particular exam. Write an application that will read all this information and summarize the result. ( hint: use variable length array)

Definition of Done:

1. Results should be displayed in a tabular format
2. Cross-average of each row should give average marks of each student and cross-average of each column should give the average marks in each subject. The output should include these cross-averages to the right of the totalled rows and to the bottom of the totalled columns.