Array ASSIGNMENT

1. WAJP2
    a. add elements to single dimensional int array
    b. print elements from single dimensional int array
2. WAJP2 calculate the average value of array elements.
3. WAJP2 test if an array contains a specific value.
4. WAJP2 find the index of an array element value.

Intermediate

5. WAJP2 copy an array by iterating the array.
6. WAJP2 print reverse of an array.
7. Write two methods that return the average of an array with following headers.
    a. public static int average(int[] array)
    b. public static double average(double[] array).
    c. Use {1,2,3,4,5,6} , {6.0,3.4,6.4,1.2,4.0} to test the methods

Array of String Assignment

8. WAJP2 add elements to a string array
9. WAJP2 print elements of array.
10. WAJP2 delete an element from an array at specified position.

Array of Objects Assignment

11. WAJP2
    a. Create a class of type Department which has an array of Students. Department has id, name and an array of Students while member variables of Student are id and name.
    b. In the main method,
        i. Create Department object, create 15 Student objects with a unique id and assign them as array elements.
        ii. After all the Student objects are created, print each Student's id.

c. In the main method,
    i. Create an array to store 5 Department objects. Each Department will have unique Id. Now, within each Department create 20 students. All the 100 Students (5 Departments * 20 Students) should have a unique id. Print each Student's id.

Advanced

12. WAJP2 find the common elements between two arrays.
13. WAJP2 find the second largest element in an array.

Additional Array ASSIGNMENTS

Beginner

14. WAJP2 insert an element in a specific position into an array.

Intermediate

15. WAJP2 print all negative elements in an array.
16. WAJP2 find sum of all array elements.
17. WAJP2 count total number of negative elements in an array.
18. WAJP2 count total number of even and odd elements in an array.
19. WAJP2 put even and odd elements of array in two separate arrays.
20. Given an array of length 3, return a new array with the elements in reverse order,

so {1, 2, 3} becomes {3, 2, 1}.
reverse3([1, 2, 3]) → [3, 2, 1]
reverse3([5, 11, 9]) → [9, 11, 5]
reverse3([7, 0, 0]) → [0, 0, 7]

21. Given an array of ints, swap the first and last elements in the array. Return the modified array. The array length will be at least 1.
swapEnds([1, 2, 3, 4]) → [4, 2, 3, 1]
swapEnds([1, 2, 3]) → [3, 2, 1]
swapEnds([8, 6, 7, 9, 5]) → [5, 6, 7, 9, 8]

Advanced

22. WAJP2 find the maximum and minimum value in an array.
23. WAJP2 find and count total number of duplicate elements in an array.
24. WAJP2 print all unique elements in the array.
25. WAJP2 find maximum and minimum element positions in an array.
26. WAJP2 find the second smallest element in an array.
27. WAJP2 count frequency of each element in an array.

28. WAJP2 merge 2 arrays to 3rd array. 3rd array should not have elements of same value.
29. WAJP2 sort array elements in ascending order.
30. WAJP2 sort array elements.
31. WAJP2 left rotate an array.
32. WAJP2 right rotate an array.
33. WAJP2 sort even and odd elements of array separately.