

***lab # 06***

**OBJECTIVE:** To find an element in linear array using Linear Search and Binary Search.



November 18, 2024

***LAB TASKS***

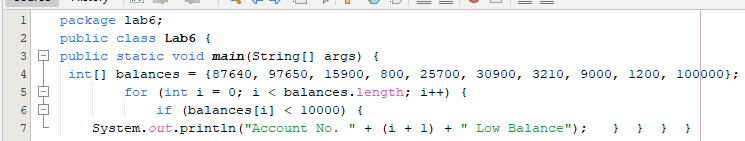
***TASK # 01***

Declare an array of size 10 to store account balances. Initialize with values 0 to 1000000. Check all array if any value is less than 10000. Show message:

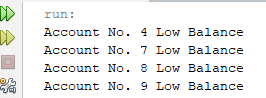
Account No. Low Balance

Account No. Low Balance

*INPUT*

**

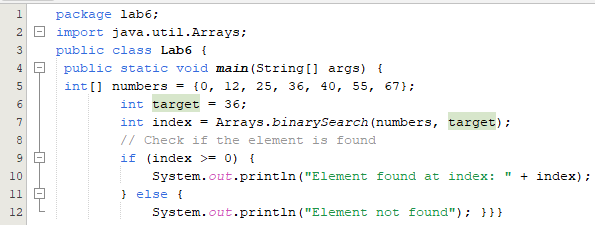
*OUTPUT*

**

***TASK # 02***

Write a program to search in array using Array built-in class.

*INPUT*

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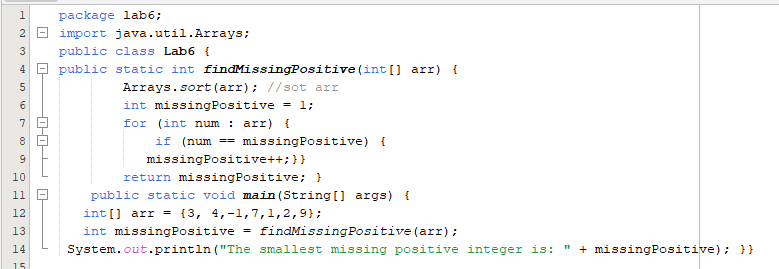
*OUTPUT*

**

***TASK # 03***

Given an unsorted array arr of integers, find the smallest positive integer that is **missing** from the array. You need to implement this using **binary search**. The array can contain both negative numbers and positive numbers, and you can assume that the array does not have duplicates.

*INPUT*

**

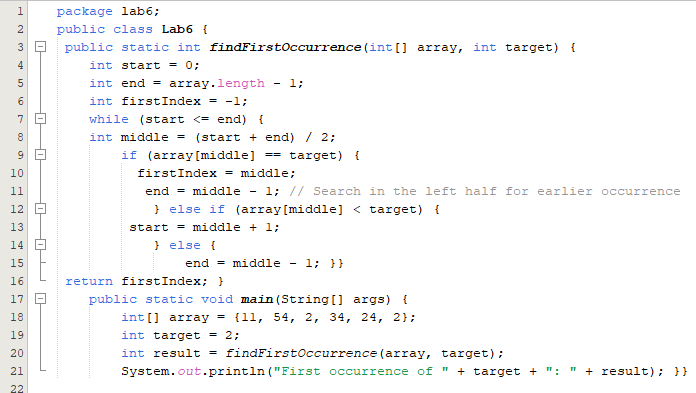
*OUTPUT*

**

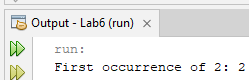
***TASK # 04***

You are given a sorted array arr[] and a target element target. Your task is to find the **first occurrence** of the target in the array using binary search. If the target is not found, return -1. You are given a sorted array arr[] and a target element target. Your task is to find the **first occurrence** of the target in the array using binary search. If the target is not found, return -1.

*INPUT*

**

*OUTPUT*

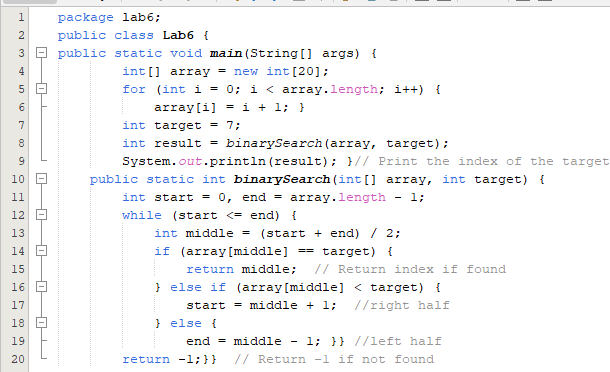
**

***HOME TASKS***

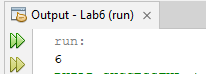
***TASK # 01***

Write a program initializing array of size 20 and search an element using binary search.

*INPUT*

**

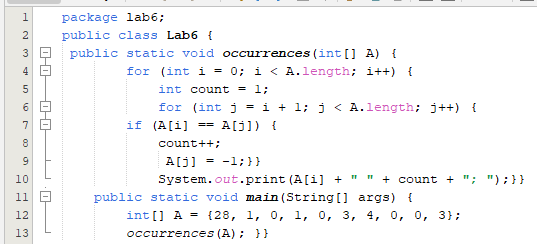
*OUTPUT*

**

***TASK # 02***

Write a function called occurrences that, given an array of numbers A, prints all the distinct values in A each followed by its number of occurrences. For example, if A = (28, 1, 0, 1, 0, 3, 4, 0, 0, 3), the function should output the following five lines (here separated by a semicolon) “28 1; 1 2; 0 4; 3 2; 4 1”.

*INPUT*

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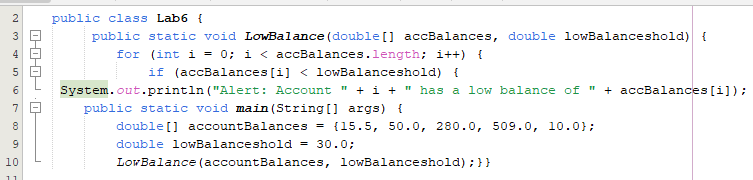
*OUTPUT*

**

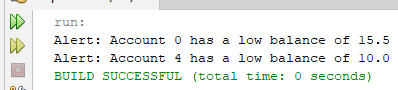
***TASK # 03***

Assume a bank's system needs to identify accounts with critically low balances and alert the user. Test the function with various balance values to ensure it correctly identifies all accounts below the threshold.

*INPUT*

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*OUTPUT*

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