**LAB # 02**

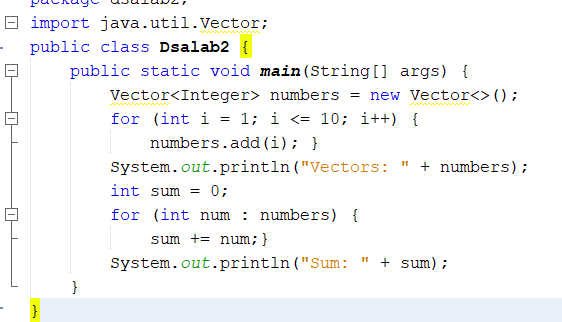
**ArrayList and Vector in JAVA**

**OBJECTIVE:** To implement ArrayList and Vector.

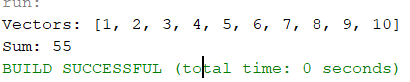
## Lab Tasks

1. Write a program that initializes Vector with 10 integers in it. Display all the integers and sum of these integers.

**Code:**

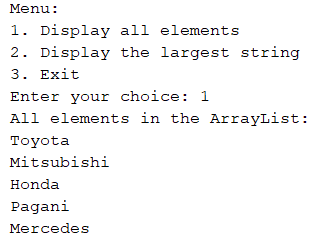
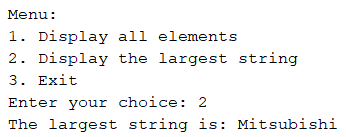


**Output:**



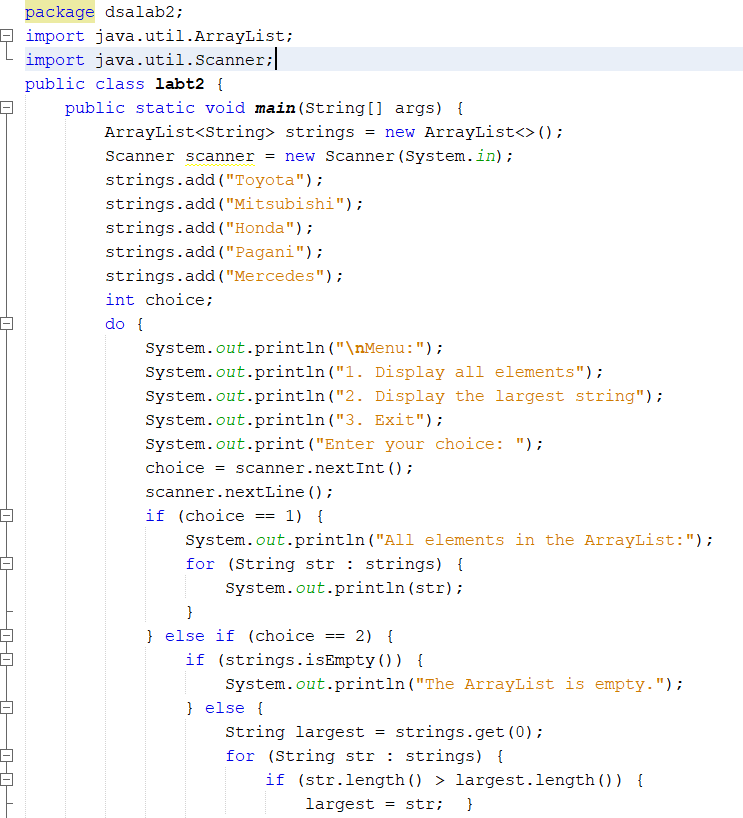
1. Create a ArrayList of string. Write a menu driven program which:
   * 1. Displays all the elements
     2. Displays the largest String

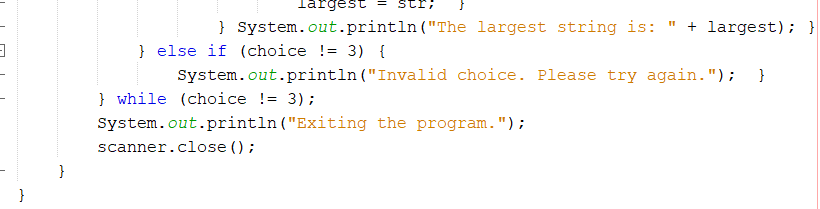
**Output:**

A:

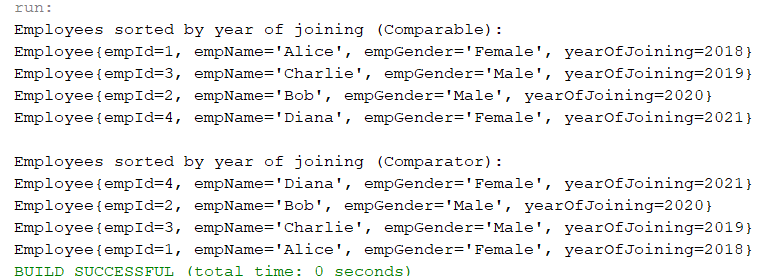
B:

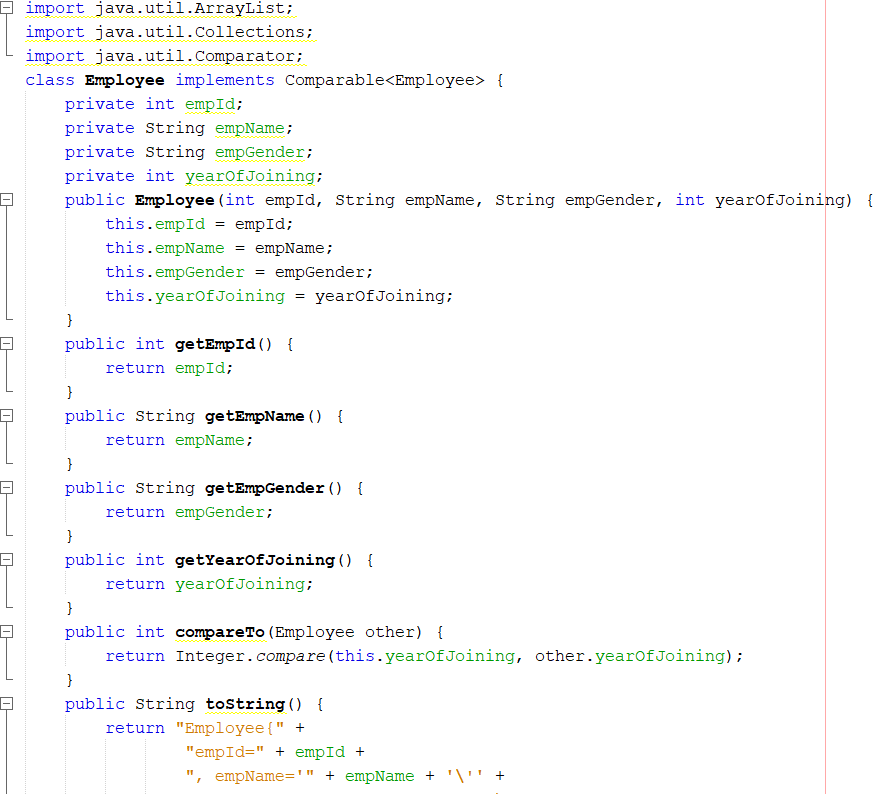
**Code:**

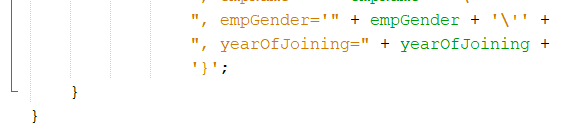


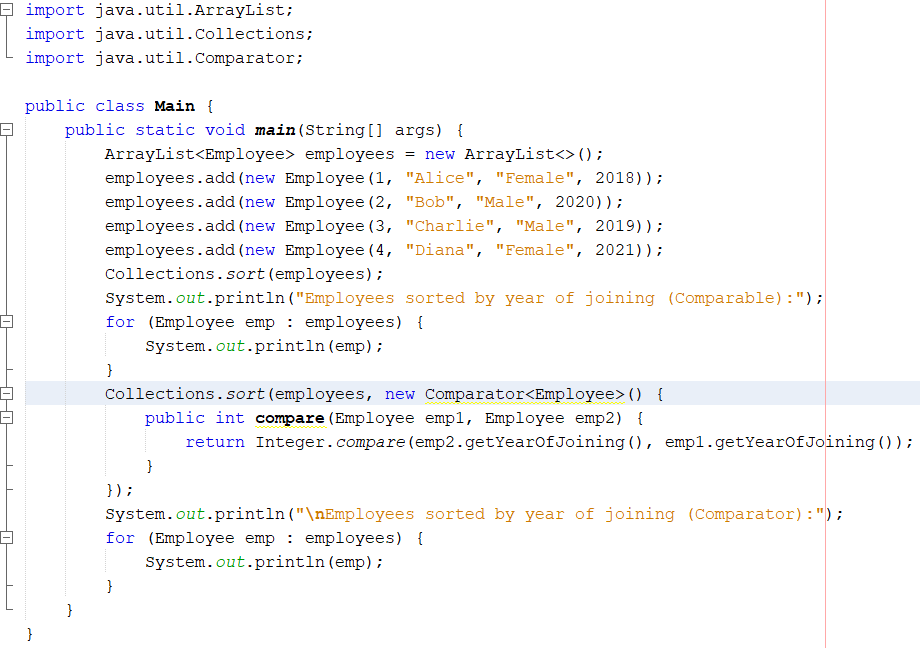


1. Create a Arraylist storing Employee details including Emp\_id, Emp\_Name, Emp\_gender, Year\_of\_Joining (you can also add more attributes including these). Then sort the employees according to their joining year using Comparator and Comparable interfaces.

**Output:**

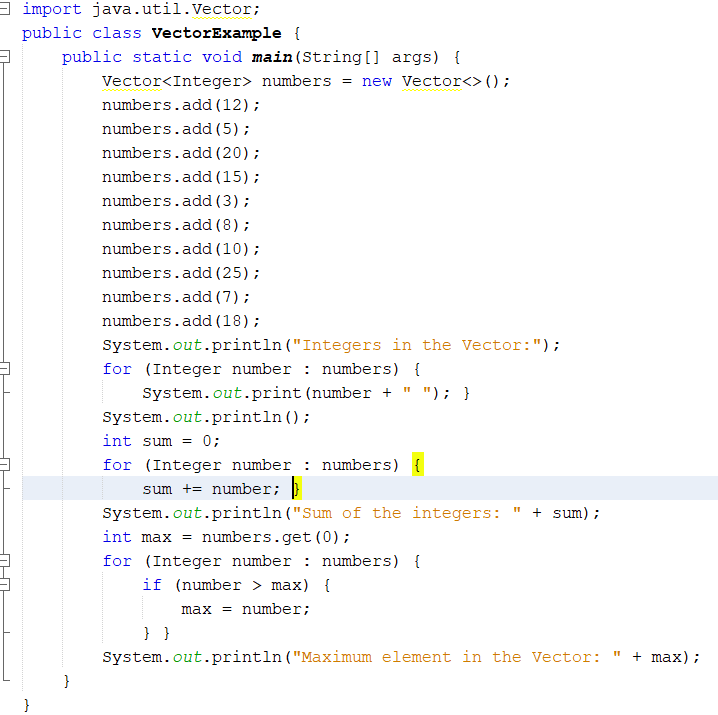


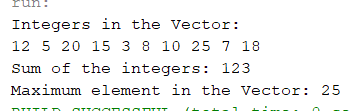




1. Write a program that initializes Vector with 10 integers in it.
   * Display all the integers  Sum of these integers.
   * Find Maximum Element in Vector

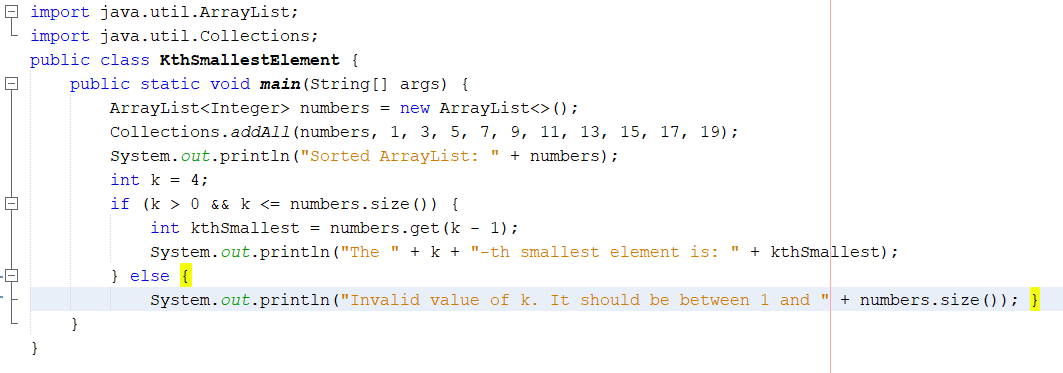
**Code:**



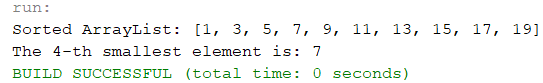
**Output**

1. Find the k-th smallest element in a sorted ArrayList

**Code:**

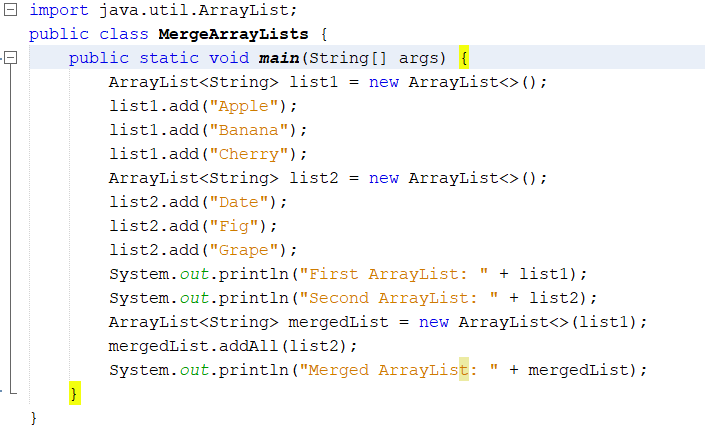
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**Output:**

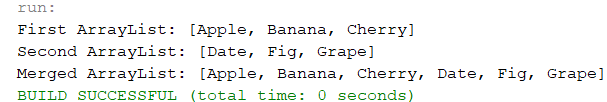
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1. Write a program to merge two ArrayLists into one.

**Code:**



**Output:**

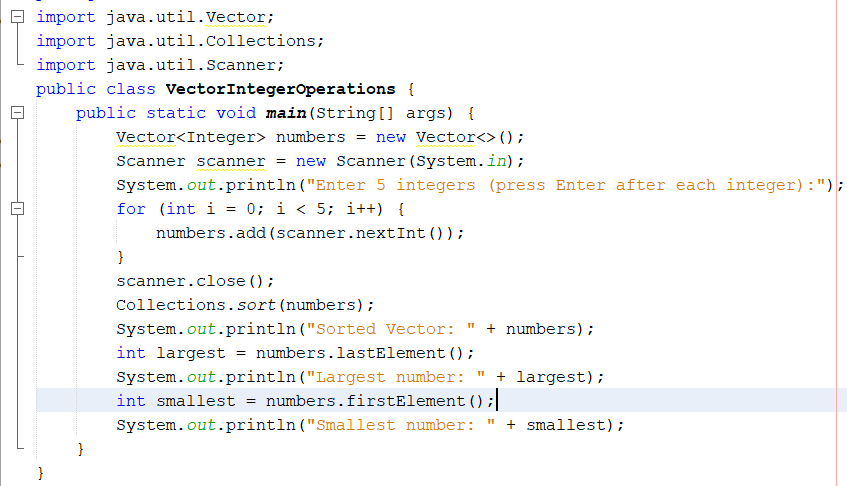
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## Home Tasks

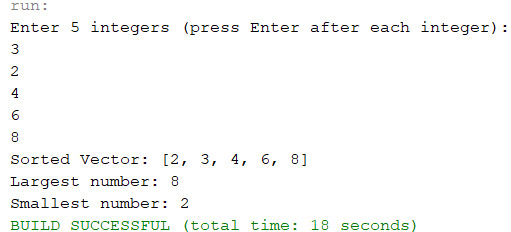
1. Create a Vector storing integer objects as an input.

A:Sort the vector B: Display largest number C:Display smallest number

**Code:**

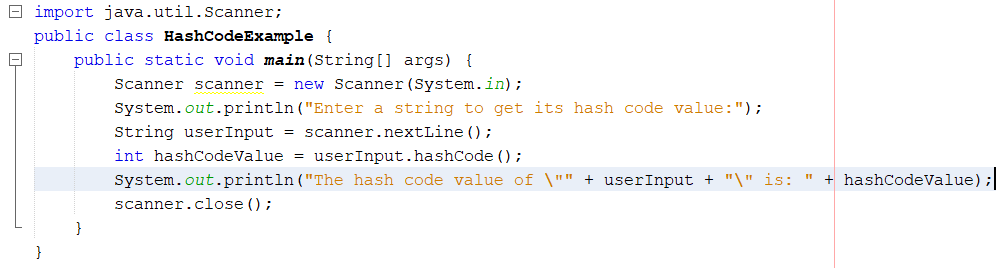


**Output:**

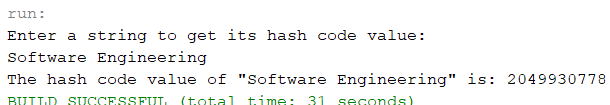


1. Write a java program which takes user input and gives hashcode value of those inputs using hashCode () method.

**Code:**

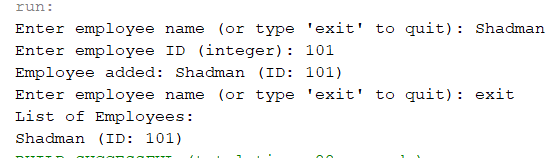


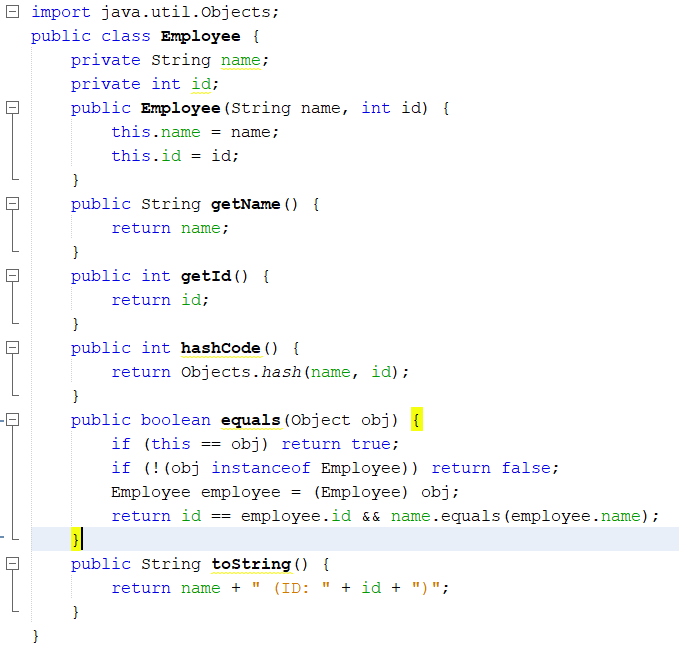
**Output:**

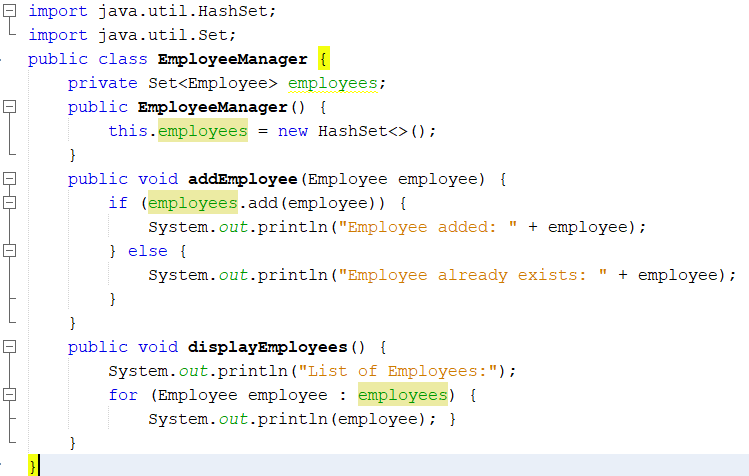
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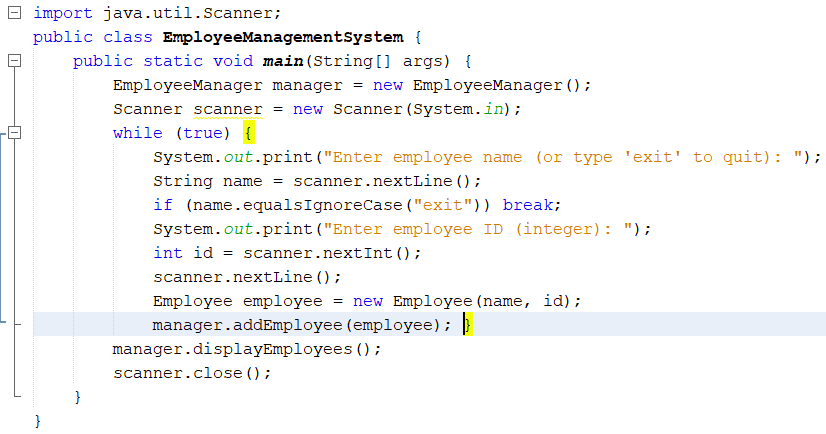
## 3. Scenario based: Create a java project, suppose you work for a company that needs to manage a list of employees. Each employee has a unique combination of a name and an ID. Your goal is to ensure that you can track employees effectively and avoid duplicate entries in your system.

**Output:**

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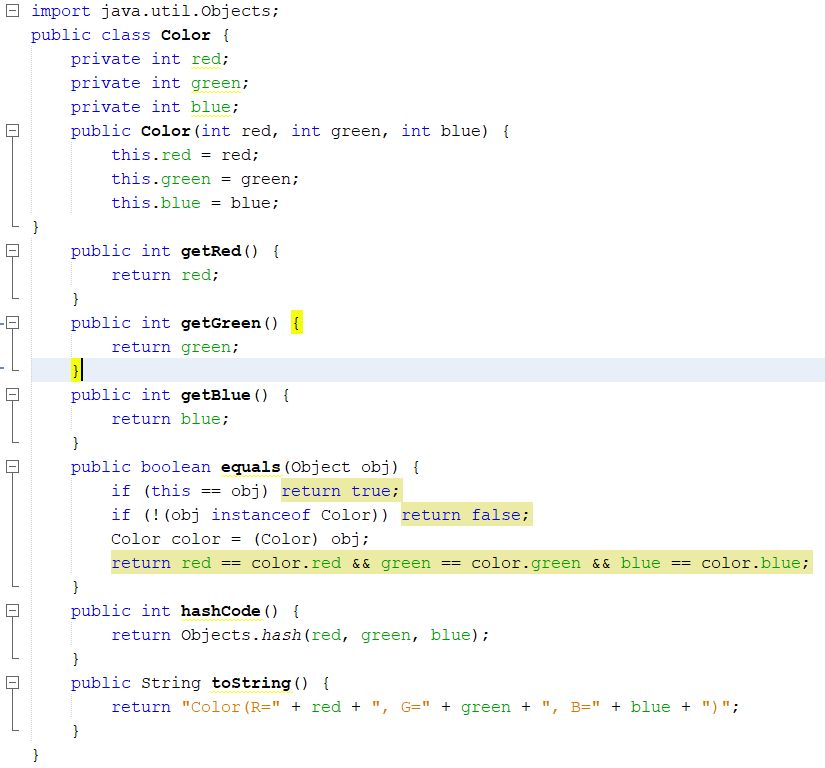
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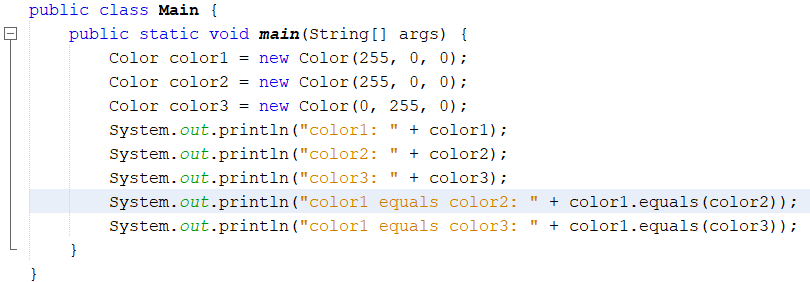
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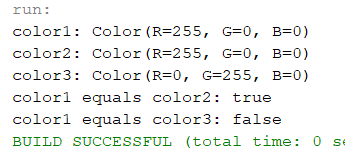
4.Create a Color class that has red, green, and blue values. Two colors are considered equal if their RGB values are the same

**Code:**





**Output:**

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