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import java.util.*;

/**
 * **
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 * Due Date: September 17, 2019
 *
 * Program Description: This program computes, then displays
 * the corresponding vote data to the respective candidate, and subdivision,
 * then calculates the totals it.
 */
public class Vote
{

     private String[] candidates;

     private String[] subDiv;

     private int[] candTotal;

     private int[] subDivTotal;

     private int[][] voteData;

     //start of main method
     public static void main(String[] args)
     {

          String[] candidatesNames = {"Audrey", "Brian", "Elizabeth", "Peter", "Zachary"};

          int[][] voteTotal = {{600, 800, 800, 800}, {700, 700, 700, 900}, {800, 700, 800, 700},
                                        {400, 450, 300, 1300}, {900, 900, 900, 1000}};

          String[] subDivisions = {"Aberdeen", "Brock", "Sahali", "Valleyview"};

          Vote x = new Vote();

          x.initData(candidatesNames, subDivisions, voteTotal);
          x.totalVotes();
          x.subDivisionTotal();
          x.printResults();
     }

     //initData method initializes the data inputed
     public void initData(String[] names, String[] subNames, int[][] voteCount)
     {

          candidates = names;
          subDiv = subNames;
          voteData = voteCount;
     }

     //totalVotes calculates the total votes per candidate
     public void totalVotes()
```

```
{


     candTotal = new int[candidates.length];

     int sum1 = 0;
     for (int row = 0; row < voteData.length; row++) {
          for (int col = 0; col < voteData[0].length; col++) {
               sum1 = sum1 + voteData[row][col];
          }
          candTotal[row] = sum1;
          sum1 = 0;
     }

}

//subDivisionTotal calculates the total votes per subDivision area
public void subDivisionTotal()
{

     subDivTotal = new int[subDiv.length];

     int sum2 = 0;
     for (int col = 0; col < voteData[0].length; col++) {
          for (int row = 0; row < voteData.length; row++) {
               sum2 = sum2 + voteData[row][col];
          }
          subDivTotal[col] = sum2;
          sum2 = 0;
     }
}

//printResults displays the information in a chart
public void printResults()
{

     System.out.printf("%-23s  %-29s %-30s %n", "Candidates", "Subdivisions", "Total");
     System.out.print("           ");

     for (int row = 0; row < subDiv.length; row++)
     {
          System.out.print("   ");

          System.out.printf("%-5s", subDiv[row]);
     }

     for (int row = 0; row < voteData.length; row++)
     {

          System.out.printf("%n%-15s", candidates[row]);

          for (int col = 0; col < voteData[0].length; col++)
          {
               System.out.printf("%-10s", voteData[row][col]);
          }
```

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            System.out.printf("%-10d", candTotal[row]);
        }


        System.out.printf("\nTotal          ");

        int temp = 0;

        for (int row = 0; row < (subDiv.length); row++)
        {
            System.out.printf("%-10s", subDivTotal[row]);
            temp += subDivTotal[row];
        }

        System.out.println(temp);

    }
}
```