Information about a College object includes its name, its tuition, and the region in which it is located. The following class declaration will be used to store information about a College.

public class College

{ //instance variables, constructors and other methods not shown.

public String getName()

    {

        //returns college name

    }

    public String getRegion()

   {

        //returns college name

    }

 public String getTuition()

 {

    //returns college name

 }

 public void setTuition(int newTuition)

 {

        // sets college’s tuition to newTuition

 }

}

The following class declaration will be used to store information about a group of colleges.

public class CollegeGroup

{   private College[] myColleges;

//constructors not shown

/\*\* @param collegeName a String that exists in myColleges; @param newTuition an \* int that represents a new tuition for collegeName

\* **Postcondition**: the tuition for collegeName is changed to newTuition

\*/

public void updateTuition(String collegeName, int newTuition)

{ /\* to be implemented in part (a) \*/}

/\*\* **Precondition**: low < high

\* @return an array of Colleges in region where low <= tuition <=high

\* The length of the array returned is equal to the number of colleges that meet the criteria

\*/

public College[] getCollegeList(String region, int low, int high)

{ /\* to be implemented in part (b) \*/}

The following chart shows an example of colleges that could appear in an object of type CollegeGroup.

|  |  |  |
| --- | --- | --- |
| **Name** | **Region** | **Tuition** |
| Colgate University | Northeast | $27, 025 |
| Duke University | Southeast | $26,000 |
| Kalamazoo College | Midwest | $19,764 |
| Stanford University | West | $25,917 |
| Florida International University | Southeast | $10,800 |
| Dartmouth College | Northeast | $27,764 |
| Spelman College | Southeast | $11,455 |

1. Write the CollegeGroup method UpdateTuition, which is described as follows. UpdateTuition changes the tuition of the college whose name is passed as a parameter. For example, if the object colleges is of type CollegeGroup and contains the entries shown in the chart above, the call colleges.UpdateTuition(“ColgateUniversity”, 27500) would change the tuition of Colgate University to $27,500. Complete method UpdateTuition below.

/\*\* @param collegeName a String that exists in myColleges; @param newTuition an

\* int that represents a new tuition for collegeName

\* **Postcondition**: the tuition for collegeName is changed to newTuition

\*/

public void updateTuition(String collegeName, int newTuition)

1. Write the CollegeGroup method GetCollegeList, which is described as follows. GetCollegeList returns an array of colleges that are located in the specific region and whose tuition is between low and high, inclusive. The length of the array should be equal to the number of colleges that meet the criteria of region and tuition range. For example, if the object colleges is of type CollegeGroup and contains the entries shown in the table above, then the call colleges.GetCollegeList(“Southeast”, 10000, 20000) should return an array of length 2, containing Florida International University and Spelman College (note that Duke University is not included because its tuition is not in the specified range, and Kalamazoo College is not included because it is not in the specified region). Complete method GetCollegeList below.

/\*\* **Precondition**: low < high

\* @return an array of Colleges in region where low <= tuition <=high

\* The length of the array returned is equal to the number of colleges that meet the criteria

\*/

public College[] getCollegeList(String region, int low, int high)