//Tekgem - International City Search Feature using C# .Net by Vishal Thakor

using System;

using System.Collections.Generic;

namespace CitySearch

{

public interface ICityResult

{

ICollection<string> NextLetters { get; set; }

ICollection<string> NextCities { get; set; }

}

public class City : ICityResult

{

public ICollection<string> NextLetters { get; set; }

public ICollection<string> NextCities { get; set; }

public City()

{

NextLetters = new HashSet<String>();

NextCities = new HashSet<String>();

}

}

public interface ICityFinder

{

ICityResult Search(string searchString);

}

public class Find\_City : ICityFinder

{

string[] cities = {"BANDUNG", "BANGUI", "BANGKOK", "BANGALORE", "BANGOR", "LA PAZ", "LA PLATA", "LAGOS", "LEEDS", "LONDON", "ZARIA", "ZHUGHAI", "ZIBO", "ZURICH"};

HashSet<String> city\_list;

public Find\_City()

{

city\_list = new HashSet<String>(cities);

}

public ICityResult Search(string searchString)

{

String searchString\_upper = searchString.ToUpper();

int searchString\_len = searchString.Length;

CitySearch.ICityResult city\_result = new CitySearch.City();

foreach (string city in city\_list)

{

if (city.ToUpper().StartsWith(searchString\_upper))

{

city\_result.NextCities.Add(city);

city\_result.NextLetters.Add(city[searchString\_len].ToString());

}

}

return city\_result;

}

}

}

public class Program

{

public static void Main()

{

String str\_city = "BANG";

CitySearch.Find\_City City\_Finder = new CitySearch.Find\_City();

CitySearch.ICityResult City\_Results = City\_Finder.Search(str\_city);

Console.WriteLine("Search Character(s): `" + str\_city + "`");

Console.WriteLine("\nPossible City/Cities: " + City\_Results.NextCities.Count);

foreach (string city in City\_Results.NextCities)

{

Console.WriteLine("`" + city + "`");

}

Console.WriteLine("\nNext Character(s): " + City\_Results.NextLetters.Count);

foreach (string character in City\_Results.NextLetters)

{

Console.WriteLine("`" + character + "`");

}

}

}