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**Problem Statement:** Student Record Management

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Experiment\_6

{

public class StudentRecordSystem

{

private string[] studentNames;

private int[] studentAges;

private string[] deptNames;

private int totalStudents;

private const int MAX\_STUDENTS = 100; // Maximum number of students

public StudentRecordSystem()

{

studentNames = new string[MAX\_STUDENTS];

studentAges = new int[MAX\_STUDENTS];

deptNames = new string[MAX\_STUDENTS];

totalStudents = 0;

}

public void AddStudent(string name, int age, string gradeLevel)

{

if (totalStudents < MAX\_STUDENTS)

{

studentNames[totalStudents] = name;

studentAges[totalStudents] = age;

deptNames[totalStudents] = gradeLevel;

totalStudents++;

Console.WriteLine("Student added successfully.");

}

else

{

Console.WriteLine("Maximum number of students reached.");

}

}

public void UpdateStudent(string name, int age, string gradeLevel)

{

int index = FindStudentIndex(name);

if (index != -1)

{

studentAges[index] = age;

deptNames[index] = gradeLevel;

Console.WriteLine("Student record updated successfully.");

}

else

{

Console.WriteLine("Student not found.");

}

}

public void DeleteStudent(string name)

{

int index = FindStudentIndex(name);

if (index != -1)

{

for (int i = index; i < totalStudents - 1; i++)

{

studentNames[i] = studentNames[i + 1];

studentAges[i] = studentAges[i + 1];

deptNames[i] = deptNames[i + 1];

}

totalStudents--;

Console.WriteLine("Student record deleted successfully.");

}

else

{

Console.WriteLine("Student not found.");

}

}

public void SearchStudent(string name)

{

int index = FindStudentIndex(name);

if (index != -1)

{

Console.WriteLine("Name: {studentNames[index]}, Age: {studentAges[index]}, Grade Level: {studentGradeLevels[index]}");

}

else

{

Console.WriteLine("Student not found.");

}

}

public string GetAllStudentsInfo()

{

if (totalStudents == 0)

{

return "No students found.";

}

string allStudentsInfo = "";

for (int i = 0; i < totalStudents; i++)

{

allStudentsInfo += "Name:" + studentNames[i] + ", Age: " + studentAges[i] + ", department name: " + deptNames[i] + "\n";

}

return allStudentsInfo;

}

private int FindStudentIndex(string name)

{

for (int i = 0; i < totalStudents; i++)

{

if (studentNames[i] == name)

{

return i;

}

}

return -1; // Student not found

}

}

class Program

{

static void Main(string[] args)

{

StudentRecordSystem recordSystem = new StudentRecordSystem();

char choice;

do

{

Console.WriteLine("\nMenu:");

Console.WriteLine("1. Add Student");

Console.WriteLine("2. Update Student");

Console.WriteLine("3. Delete Student");

Console.WriteLine("4. Search Student");

Console.WriteLine("5. Display All Students");

Console.WriteLine("6. Exit");

Console.Write("Enter your choice: ");

choice = Console.ReadKey().KeyChar;

Console.WriteLine();

switch (choice)

{

case '1':

Console.Write("Enter name: ");

string name = Console.ReadLine();

Console.Write("Enter age: ");

int age = int.Parse(Console.ReadLine());

Console.Write("Enter Department name: ");

string gradeLevel = Console.ReadLine();

recordSystem.AddStudent(name, age, gradeLevel);

break;

case '2':

Console.Write("Enter name of student to update: ");

string nameUpdate = Console.ReadLine();

Console.Write("Enter age: ");

int ageUpdate = int.Parse(Console.ReadLine());

Console.Write("Enter Department name: ");

string gradeLevelUpdate = Console.ReadLine();

recordSystem.UpdateStudent(nameUpdate, ageUpdate, gradeLevelUpdate);

break;

case '3':

Console.Write("Enter name of student to delete: ");

string nameDelete = Console.ReadLine();

recordSystem.DeleteStudent(nameDelete);

break;

case '4':

Console.Write("Enter name of student to search: ");

string searchName = Console.ReadLine();

recordSystem.SearchStudent(searchName);

break;

case '5':

Console.WriteLine("All Students:");

Console.WriteLine(recordSystem.GetAllStudentsInfo());

break;

case '6':

Console.WriteLine("Exiting...");

break;

default:

Console.WriteLine("Invalid choice. Please enter a valid option.");

break;

}

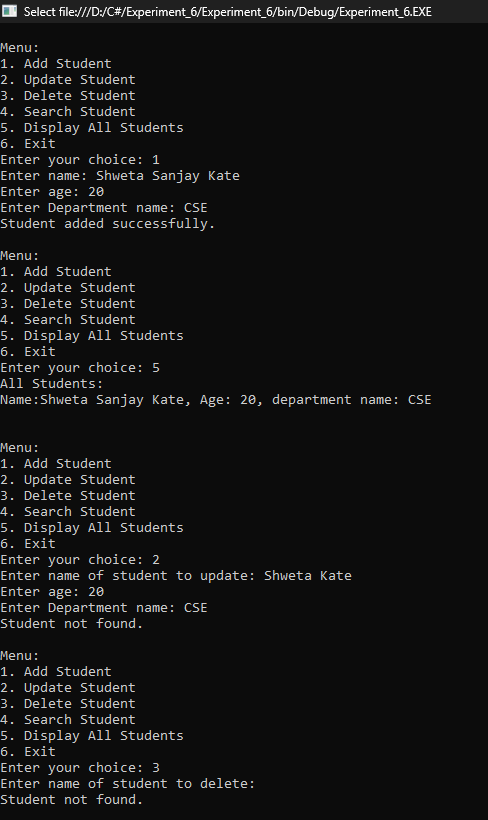
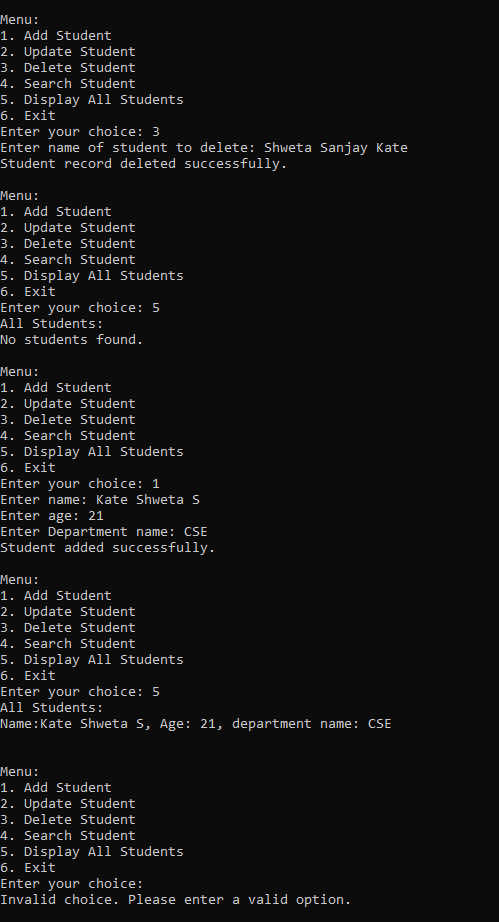
} while (choice != '6');

}

}

}

**Output:**

**** ****