**Assignment:**

**24-NTU-CS-FL-1197:**

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using System;

class Program

{

static string[,] students;

static int[][] scores;

static int numStudents;

static void Main()

{

while (true)

{

Console.WriteLine("\nMenu:");

Console.WriteLine("1. Input Student Data");

Console.WriteLine("2. Display Student Data");

Console.WriteLine("3. Calculate Student Statistics");

Console.WriteLine("4. Calculate Class Average Per Exam");

Console.WriteLine("5. Exit");

Console.Write("Choose an option: ");

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

switch (choice)

{

case 1:

InputStudentData();

break;

case 2:

DisplayStudentData();

break;

case 3:

CalculateStudentStatistics();

break;

case 4:

CalculateClassAverage();

break;

case 5:

return;

default:

Console.WriteLine("Invalid choice. Try again.");

break;

}

}

}

static void InputStudentData()

{

Console.Write("Enter number of students: ");

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

students = new string[numStudents, 3];

scores = new int[numStudents][];

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

{

Console.Write($"Enter Student {i + 1} ID: ");

students[i, 0] = Console.ReadLine();

Console.Write($"Enter Student {i + 1} Name: ");

students[i, 1] = Console.ReadLine();

Console.Write($"Enter number of exams for {students[i, 1]}: ");

students[i, 2] = Console.ReadLine();

int numExams = int.Parse(students[i, 2]);

scores[i] = new int[numExams];

for (int j = 0; j < numExams; j++)

{

Console.Write($"Enter score {j + 1} for {students[i, 1]}: ");

scores[i][j] = int.Parse(Console.ReadLine());

}

}

}

static void DisplayStudentData()

{

Console.WriteLine("\nStudent Information and Scores:");

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

{

Console.Write($"{students[i, 0]} - {students[i, 1]} - Exams: {students[i, 2]} - Scores: ");

Console.WriteLine(string.Join(", ", scores[i]));

}

}

static void CalculateStudentStatistics()

{

Console.WriteLine("\nStudent Statistics:");

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

{

double avg = 0;

int highest = int.MinValue, lowest = int.MaxValue;

foreach (int score in scores[i])

{

avg += score;

if (score > highest) highest = score;

if (score < lowest) lowest = score;

}

avg /= scores[i].Length;

Console.WriteLine($"{students[i, 1]} - Avg: {avg:F2}, Highest: {highest}, Lowest: {lowest}");

}

}

static void CalculateClassAverage()

{

int maxExams = 0;

foreach (var s in scores)

if (s.Length > maxExams) maxExams = s.Length;

Console.WriteLine("\nClass Average Per Exam:");

for (int j = 0; j < maxExams; j++)

{

double sum = 0;

int count = 0;

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

{

if (j < scores[i].Length)

{

sum += scores[i][j];

count++;

}

}

Console.WriteLine($"Exam {j + 1} Average: {(sum / count):F2}");

}

}

}