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COP2360 C# Programming I

**Module 7 TUTORIAL 10-3: Completing the Computer Science Student Application**

SCREENSHOT:

Graphical user interface, application

Description automatically generated

CODE:

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace Computer\_Science\_Student

{

abstract class Student

{

//Constructor

public Student(string name, string id)

{

Name = name;

id = id;

}

//Concrete Properties

public string Name { get; set; }

public string ID { get; set; }

//RequiredHours property (abstract)

public abstract double RequiredHours

{

get;

}

}

}

//Collaboration Statement: I worked alone.

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace Computer\_Science\_Student

{

class CompSciStudent : Student

{

// Constants

private double MATH\_HOURS = 20;

private double CS\_HOURS = 40;

private double GEN\_HOURS = 60;

//Fields

private string \_academicTrack;

//Constructor

public CompSciStudent(string name, string id, string track) : base(name, id)

{

AcademicTrack = track;

}

// AcademicTrack property

public string AcademicTrack { get; set; }

// RequiredHours property

public override double RequiredHours

{

get { return MATH\_HOURS + CS\_HOURS + GEN\_HOURS; }

}

}

}

//Collaboration Statement: I worked alone.

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Windows.Forms;

namespace Computer\_Science\_Student

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

private void getHoursButton\_Click(object sender, EventArgs e)

{

// Variables to hold input

string name, id, track;

// Get the student's name and ID.

name = nameTextBox.Text;

id = idTextBox.Text;

// Get the student's academic track.

if (infoSystemsRadioButton.Checked)

{

track = "Information Systems";

}

else

{

track = "Software Engineering";

}

// Create a CompSciStudent object.

CompSciStudent csStudent = new CompSciStudent(name, id, track);

// Display the student's required hours.

requiredHoursLabel.Text = csStudent.RequiredHours.ToString("n1");

}

private void exitButton\_Click(object sender, EventArgs e)

{

// close form

this.Close();

}

}

}

//Collaboration Statement: I worked alone.