using System;

namespace Assignment3

{

class Program

{

#region Hidden

public static void Main(string[] args)

{

string number;

do

{

Console.Write("Enter the number (1-10) for the question to run or 0 to exit: ");

number = Console.ReadLine();

ShowTitle(number);

switch (number)

{

case "1":

Question1();

break;

case "2":

Question2();

break;

case "3":

Question3();

break;

case "4":

Question4();

break;

case "5":

Question5();

break;

case "6":

Question6();

break;

case "7":

Question7();

break;

case "8":

Question8();

break;

case "9":

Question9();

break;

case "10":

Question10();

break;

}

} while (number != "0");

}

public static void ShowTitle(string number)

{

Console.Clear();

Console.WriteLine("Question {0}", number);

Console.WriteLine("------------");

Console.WriteLine();

}

#endregion

/// <summary>

/// Write code that prompts the user for a menu choice.

/// The program will display a message based on the following:

/// Choice Message

/// 1 "Calculate area"

/// 2 "Calculate volume"

/// 3 "Calculate surface area"

/// 4 "Exit the program"

/// any other input "ERROR: Invalid choice"

/// </summary>

public static void Question1()

{

Console.Write("Enter Menu of choice from 1 - 4 : ");

int menuChoice = Convert.ToInt32(Console.ReadLine());

if (menuChoice == 1) {

Console.WriteLine("Calculate area\n"); }

else if (menuChoice == 2)

Console.WriteLine("Calculate volume\n");

else if (menuChoice == 3)

Console.WriteLine("Calculate surface area\n");

else if (menuChoice == 4)

Console.WriteLine("Calculate area\n");

else

Console.WriteLine("ERROR: Invalid choice\n");

}

/// <summary>

/// Write code that allows the user to enter two integers and a character.

/// If the character is 'A', then add the two integers.

/// If the character is 'S', then subtract the second integer from the first.

/// Otherwise, multiply the integers.

/// Display the results of the arithmetic.

/// </summary>

public static void Question2()

{

int num1, num2;

Console.Write("Enter 1st Number: ");

num1 = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter 2nd Number: ");

num2 = Convert.ToInt32(Console.ReadLine());

Console.Write("Type 'a' to add, 's' to subtract: ");

char choice = Convert.ToChar(Console.ReadLine());

if(choice == 'a' || choice == 'A')

Console.WriteLine($"Addition:{num1+num2}");

else if(choice == 's' || choice == 'S')

Console.WriteLine($"Subtraction: {num2-num1}");

else

Console.WriteLine($"Multiplication: {num1\*num2}");

}

/// <summary>

/// Write code that prompts the user for the number of cources and residency status

/// (domestic or international) and calculates tuition cost. Cost is calculated based on the

/// folowing:

/// Domestic $325 per course

/// International $1375 per course

/// You decide how you want the user to enter their residency status and prompt accordingly.

/// You must use named constants for the cost per course.

/// Display the total cost.

/// </summary>

public static void Question3()

{

Console.Write("Enter # of courses: ");

int courses = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter Residency status\n'D' for domestic & 'I' for international: ");

char ResStatus = Convert.ToChar(Console.ReadLine());

const int domPerCourse = 325;

const int intPerCourse = 1375;

if (ResStatus == 'd' || ResStatus == 'D')

Console.WriteLine($"Total Cost for Domestic: {courses \* domPerCourse:C}");

else if (ResStatus == 'i' || ResStatus == 'I')

Console.WriteLine($"Total COst for International: {courses \* intPerCourse:C}");

else

Console.WriteLine("Error Input. Response not valid.");

}

/// <summary>

/// Write code that prompts the user for a day of the week. The program will display a

/// message based on the following:

/// Choice Message

/// Sun Home

/// Mon Work

/// Tue Work

/// Wed Home

/// Thu Work

/// Fri Work

/// Sat Work

/// </summary>

public static void Question4()

{

Console.Write("Select a day (Mon/Tue/Wed/Thu/Fri/Sat/Sun) : ");

string day = Console.ReadLine();

switch (day.ToLower()) {

case "mon":

Console.WriteLine("Monday is Work");

break;

case "tue":

Console.WriteLine("Tuesday is Work");

break;

case "wed":

Console.WriteLine("Wednesday is Home");

break;

case "thu":

Console.WriteLine("Thursday is Work");

break;

case "fri":

Console.WriteLine("Friday is Work");

break;

case "sat":

Console.WriteLine("Saturday is Work");

break;

case "sun":

Console.WriteLine("Monday is Home");

break;

default:

Console.WriteLine("Invalid Day of the week");

break;

}

}

/// <summary>

/// Write code for a furniture company. Ask the user to choose Pine, Oak or Mahogany.

/// Show the price of a table manufactured with the choosen wood. Pine tables cost $100,

/// Oak tables cost $125, and Mahogany tables cost $310. You must use named constants and

/// a switch statement. You must accept any variation on the case (Eg. Pine, pine, PINE, piNe, etc

/// </summary>

public static void Question5()

{

string formatTab = " ";

const int pine = 100, oak = 125, mahogany = 310;

Console.WriteLine("Choose the ff: \n> Pine\n> Oak\n> Mahogany");

string userInput = Console.ReadLine();

switch (userInput.ToLower())

{

case "pine":

Console.WriteLine($"Pine{formatTab,20}{pine:C}");

break;

case "oak":

Console.WriteLine($"Oak{formatTab,20}{oak:C}");

break;

case "mahogany":

Console.WriteLine($"Mahogany{formatTab,20}{mahogany:C}");

break;

default:

Console.WriteLine("Invalid input. ");

break;

}

}

/// <summary>

/// Write code that prompts the user for an hourly pay rate. If the value entered is less than

/// $5.65, display an error message

/// </summary>

public static void Question6()

{

float hourlyRate = 0.0f;

Console.Write("Enter hourly rate: ");

hourlyRate = Convert.ToSingle(Console.ReadLine());

if (hourlyRate < 5.65)

Console.WriteLine("Error, Below required hourly rate. ");

else

Console.WriteLine($"Great! You entered {hourlyRate:C}");

}

/// <summary>

/// Write code that prompt a user for an hourly pay rate. If the user enters a vale less than

/// $5.65 or greater than $49.99, prompt the user again. If the user enters an invalid value again,

/// display an appropriate error message. If the user enters a valid value on either the first or

/// second attempt, display the pay rate as well as the weekly rate which is calculated as 40 times

/// the hourly rate.

/// </summary>

public static void Question7()

{

Console.Write("Hourly Pay Rate: ");

float userInput = Convert.ToSingle(Console.ReadLine());

if (userInput >= 5.65 && userInput <= 49.99)

{

Console.WriteLine($"\nDaily Pay rate: {userInput \* 8:C}");

Console.WriteLine($"Weekly rate: {userInput \* 40:C}");

}

else// if(userInput < 5.65 && userInput > 49.99)

{

Console.WriteLine("Error Message 1: Below Required Rate.");

Console.Write("Re-enter Hourly Pay Rate (1): ");

userInput = Convert.ToSingle(Console.ReadLine());

if (userInput >= 5.65 && userInput <= 49.99)

{

Console.WriteLine($"\nDaily Pay rate: {userInput \* 8:C}");

Console.WriteLine($"Weekly rate: {userInput \* 40:C}");

}

else

{

Console.WriteLine("Error Message 2: Below Required Rate.");

Console.Write("Re-enter Hourly Pay Rate (2): ");

userInput = Convert.ToSingle(Console.ReadLine());

if (userInput >= 5.65 && userInput <= 49.99)

{

Console.WriteLine($"\nDaily Pay rate: {userInput \* 8:C}");

Console.WriteLine($"Weekly rate: {userInput \* 40:C}");

}

else

Console.WriteLine("Error Message 3: No more attempts");

}

}

}

/// <summary>

/// Write a program for a college's admissions office. The user enters a numeric high school grade

/// point average (ex. 3.2) and an admission test score. Print the message "Accept" if the student

/// meets either of the following requirements:

/// A grade point average of 3.0 or higher and an admission test score of at least 60

/// A grade point average of less than 3.0 and an admission test score of at least 80

/// If the student does not meet either of the qualification criteria, print "Reject"

/// </summary>

public static void Question8()

{

Console.Write("Enter your high school grade point average: ");

float highSchoolGrade = Convert.ToSingle(Console.ReadLine());

Console.Write("Enter your high school Admission test score: ");

float admissionTestScore = Convert.ToSingle(Console.ReadLine());

bool HS\_GPA\_pass = (highSchoolGrade >= 3.0 && highSchoolGrade <= 4.5); //TRUE

bool AdmissionTest\_pass = (admissionTestScore >= 60 && admissionTestScore <= 100); //TRUE

bool qualifying\_Admission = (highSchoolGrade >= 1 && highSchoolGrade <= 3.0) && (admissionTestScore >= 80 && admissionTestScore <= 100); //TRUE

if(HS\_GPA\_pass && AdmissionTest\_pass == true)

Console.WriteLine("\nYou Are Accepted");

else if (qualifying\_Admission == true)

Console.WriteLine("\nYou Are Accepted");

else

Console.WriteLine("\nSorry, Admission Rejected");

}

/// <summary>

/// Write code that prompts the uesr for an hourly pay rate and hours worked. Compute gross pay

/// (hours times pay rate), withholding tax, and net pay (gross pay minus withholding tax).

/// Withholding tax is computed as a percentage of gross pay based on the following:

/// Gross pay Withholding Percentage

/// Up to an including 300.00 10%

/// 300.01 and up 12%

/// </summary>

public static void Question9()

{

Console.Write("Enter Hourly Pay Rate: ");

float hourlyPayRate = Convert.ToSingle(Console.ReadLine());

Console.Write("Number of Hours Worked for the week: ");

int hoursWorked = Convert.ToInt32(Console.ReadLine());

float withHoldingTax = 0.0f;

float grossPay = hourlyPayRate \* hoursWorked;

int taxAmount = 0;

if (grossPay <= 300)

{

taxAmount = 10;

withHoldingTax = grossPay \* 0.10f;

}

else if (grossPay >= 300.01)

{

taxAmount = 12;

withHoldingTax = grossPay \* 0.12f;

}

Console.WriteLine($"\nGross Pay: {grossPay:C}\nWithholding Tax ({taxAmount}%): {withHoldingTax:C}\nNet Pay is: {grossPay - withHoldingTax:C} ");

}

/// <summary>

/// Write code for a lawn-mowing service. The lawn-mowing season lasts 20 weeks. The weekly fee

/// for mowing a lot under 400 square feet is $25. The fee for a lot that is 400 square feet or more,

/// but under 600 square feet, is $35 per week. The fee for a lot that is 600 square feet or over is

/// $50 per week. Prompt the user for the length and width of a lawn, and then print the weekly

/// mowing fee, as well as the total fee for the 20-week season.

/// </summary>

public static void Question10()

{

Console.WriteLine("Lawn-Mowing Service");

Console.Write("Enter Length of Lawn: ");

int lawnLength = Convert.ToInt32(Console.ReadLine());

Console.Write("Enter Width of Lawn: ");

int lawnWidth = Convert.ToInt32(Console.ReadLine());

int lawnArea = 0;

int weeklyFee = 0;

lawnArea = lawnLength \* lawnWidth;

if (lawnArea < 400)

weeklyFee = 25;

else if (lawnArea >= 400 && lawnArea < 600)

weeklyFee = 35;

else if (lawnArea >= 600)

weeklyFee = 50;

Console.WriteLine($"\nWeekly Fee is {weeklyFee:C}\nTotal Weeky Mowing Fee is {weeklyFee\*20:C}");

}

}

}