using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace Time

{

class Program

{

static void Main(string[] args)

{

char[] punctuation = { ':', '.' };

while (true)

{

Console.Title = "Format as hh:mm:ss";

string addition = "";

int startSecs = 0, finishSecs = 0;

//Close when no input

if ((addition = GetInput("Enter start time: (above for format) ", out startSecs, punctuation)) == "")

break;

Console.Title += " Start time " + addition;

if ((addition = GetInput("Enter finish time: (above for format)", out finishSecs, punctuation)) == "")

break;

Console.Title += " Finish time " + addition;

DisplayTimeTaken(startSecs, finishSecs);

}

}

static void DisplayTimeTaken(int startSeconds, int finishSeconds)

{

int[] timeTaken = new int[3];

int difference = finishSeconds - startSeconds;

//If time is negative, finished before you began

if (difference < 0)

{

Console.WriteLine("You finished before you began\n");

return;

}

//Calculates hours from total seconds, then calculates seconds remainding

timeTaken[0] = difference / 3600;

difference %= 3600;

//Calculates minutes from remaining seconds, then sets seconds

timeTaken[1] = difference / 60;

difference %= 60;

timeTaken[2] = difference;

//Displays time taken in appropriate format, with placeholder 0's

Console.WriteLine("Time taken was {0}:{1}:{2}\n", timeTaken[0], String.Format("{0:d2}",timeTaken[1]), String.Format("{0:d2}",timeTaken[2]));

}

static string GetInput(string prompt, out int seconds, char[] punctuation)

{

seconds = 0;

//Loops until has correct input

while (seconds == 0)

{

bool error = false;

//Asks user for input

Console.Write(prompt);

string input = Console.ReadLine();

if (input == "")

{

break;

}

//Removes colon/period and then checks that there are only numbers left

char[] checkOnlyNum = input.Replace(":", "").Replace(".", "").ToCharArray();

foreach (char c in checkOnlyNum)

{

if (!char.IsNumber(c))

{

//Character was not number and therefore incorrect input

DisplayError();

error = true;

break;

}

}

//If time is wrong aka 134 seconds, instead of 14 seconds with another 2 minutes

if (Convert.ToInt32(input.Split(punctuation)[1]) > 59 || Convert.ToInt32(input.Split(punctuation)[2]) > 59)

{

DisplayError();

error = true;

}

if (!error)

{

//Input was correct so calculate time in seconds for easy calculation.

seconds = 60 \* (60 \* Convert.ToInt32(input.Split(punctuation)[0]) + Convert.ToInt32(input.Split(punctuation)[1])) + Convert.ToInt32(input.Split(punctuation)[2]);

return input;

}

}

return "";

}

static void DisplayError()

{

Console.WriteLine("Please type in correct input!");

Console.ReadKey();

Console.Clear();

}

}

}