using System;

using System.Collections.Generic;

using System.Diagnostics;

using System.IO.Pipes;

using System.Linq;

using System.Runtime.CompilerServices;

using System.Text;

using System.Threading.Tasks;

namespace Homework02

{

public class Card

{

public string Value { get; set; }

public int Point { get; set; }

public Card(string value, int point)

{

Value = value;

Point = point;

}

}

internal class Program

{

static void Terminate(string isTerminate)

{

isTerminate = isTerminate.ToLower();

if (isTerminate == "exit")

{

Console.WriteLine("\nThe program terminates. Thank you for using my program.");

Console.WriteLine("We are looking forward to seeing you again.");

Console.ReadKey();

Environment.Exit(0);

}

}

static void Main(string[] args)

{

string program = "";

string temporary = "";

do

{

Console.Write("Which Program do you wan to start? (1 = Signum, 2 = Divide, 3 = 21, 4 = LNKO, Exit\nYou can use the Exit in any input: ");

program = Console.ReadLine();

Terminate(program);

if (((program != "1" && program != "2") && (program != "3" && program != "exit")) && program != "4")

{

Console.WriteLine("Invalid input\n");

continue;

}

bool invalidInput = false;

switch (program)

{

case "1":

do

{

invalidInput = false;

Console.Write("Enter a number: ");

double numberToSignum;

temporary = Console.ReadLine();

int signum;

Terminate(temporary);

if (!double.TryParse(temporary, out numberToSignum))

{

Console.WriteLine("Invalid input\n");

invalidInput = true;

continue;

}

if (numberToSignum < 0)

{

signum = -1;

}

else if (numberToSignum > 0)

{

signum = 1;

}

else

{

signum = 0;

}

Console.Write("The value of the signum based on your number ({0}) is \"{1}\" (", numberToSignum, signum);

if (signum == -1)

{

Console.Write("-).\n\n");

}

else

{

Console.Write("+).\n\n");

}

} while (invalidInput);

break;

case "2":

int number1; // >= 0 - input1

int number2; // > 0 - input2 && < input1

int result = 0; // >= 0 - output

do

{

invalidInput = false;

// Input1

Console.Write("Enter the first number: ");

temporary = Console.ReadLine();

// Checking the input

Terminate(temporary);

if (!int.TryParse(temporary, out number1) || number1 < 0)

{

Console.WriteLine("Invalid input\n");

invalidInput = true;

continue;

}

// Input2

Console.Write("Enter the second number: ");

temporary = Console.ReadLine();

// Checking the input

Terminate(temporary);

if ((!int.TryParse(temporary, out number2) || number2 <= 0) || number2 > number1)

{

Console.WriteLine("Invalid input\n");

invalidInput = true;

continue;

}

// Calculation

int temp = number1;

while (temp >= number2)

{

temp -= number2;

}

result = temp;

}

while (invalidInput);

Console.WriteLine("The remainings of the division is: {0}\n", result);

break;

case "3":

List<Card> cards = new List<Card>();

cards.Add(new Card("alsó", 2));

cards.Add(new Card("felső", 3));

cards.Add(new Card("király", 4));

cards.Add(new Card("vii", 7));

cards.Add(new Card("viii", 8));

cards.Add(new Card("ix", 9));

cards.Add(new Card("x", 10));

cards.Add(new Card("ász", 11));

bool isCard = false;

string cardName = "";

do

{

Console.Write("Please enter a card name: ");

temporary = Console.ReadLine();

Terminate(temporary);

cardName = temporary;

cardName = cardName.ToLower();

for (int i = 0; i < cards.Count; i++)

{

if (cardName == cards[i].Value)

{

isCard = true;

Console.WriteLine("\nThe value of the {0} is: {1}\n", cards[i].Value, cards[i].Point);

break;

}

}

if (!isCard)

{

Console.WriteLine("\nInvalid card. You entered \"{0}\". Please review your input and enter a valid card.\n", cardName);

}

} while (!isCard);

break;

case "4":

int number1\_LNKO;

int number2\_LNKO;

do

{

invalidInput = false;

//First number

Console.Write("Please enter the first number: ");

temporary = Console.ReadLine();

Terminate(temporary);

if (!int.TryParse(temporary, out number1\_LNKO) || number1\_LNKO <= 0)

{

Console.WriteLine("Invalid input.\n");

invalidInput = true;

continue;

}

//Second number

Console.Write("Please enter the second number: ");

temporary = Console.ReadLine();

Terminate(temporary);

if (!int.TryParse(temporary, out number2\_LNKO) || number2\_LNKO <= 0)

{

Console.WriteLine("\nInvalid input.\n");

invalidInput = true;

continue;

}

//Calculation

if (number1\_LNKO < number2\_LNKO)

{

int temp = number1\_LNKO;

number1\_LNKO = number2\_LNKO;

number2\_LNKO = temp;

}

int remainder = number1\_LNKO % number2\_LNKO;

while (remainder > 0)

{

number1\_LNKO = number2\_LNKO;

number2\_LNKO = remainder;

remainder = number1\_LNKO % number2\_LNKO;

}

Console.WriteLine("\nThe Greatest Common Divisor is: {0}\n", number2\_LNKO);

} while (invalidInput);

break;

}

}

while (program != "exit");

}

}

}