**Name: Pham Duong Minh Nhat. 19IT182**

**Class: 19IT3**

**Code:**

using System;

namespace Exercise {

class All {

static void Main(string[] args) {

while (true) {

Console.WriteLine("Welcome to Minh Nhat EXERCISES");

Console.WriteLine("Choose EXERCISES");

Console.WriteLine("1. EXERCISES 1");

Console.WriteLine("2. EXERCISES 2");

Console.WriteLine("3. EXERCISES 3");

Console.WriteLine("4. EXERCISES 4");

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

if (chooseFunc > 4 || chooseFunc < 1) {

Console.WriteLine("Please re-Enter");

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

}

else {

switch (chooseFunc) {

case 1:

Ex1();

break;

case 2:

Ex2();

break;

case 3:

Ex3();

break;

case 4:

Ex4();

break;

}

}

}

}

static void Ex1() {

Console.WriteLine("Enter Number a:");

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

Console.WriteLine("Enter Number b:");

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

Console.WriteLine("Enter Operator:");

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

if (ope == '+') {

Console.WriteLine("Result: {0} + {1} = {2}", a, b, a + b);

}

else if (ope == '-')

Console.WriteLine("Result: {0} - {1} = {2}", a, b, a - b);

else if ((ope == 'x') || (ope == '\*'))

Console.WriteLine("Result: {0} \* {1} = {2}", a, b, a \* b);

else if (ope == '/')

Console.WriteLine("Result: {0} / {1} = {2}", a, b, a / b);

else

Console.WriteLine("Wrong Operator");

}

static void Ex2() {

Console.WriteLine("Enter Number a:");

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

Console.WriteLine("Enter Number b:");

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

Console.WriteLine("Enter Number c:");

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

double delta = b \* b - 4 \* a \* c;

double x, x1, x2;

if (delta > 0) {

x1 = (-b + System.Math.Sqrt(delta)) / (2 \* a);

x2 = (-b - System.Math.Sqrt(delta)) / (2 \* a);

Console.WriteLine("The Quadratic Equation has two roots are: " + x1 + ", " + x2);

} else if(delta == 0) {

x1 = (-b + System.Math.Sqrt(delta)) / (2 \* a);

Console.WriteLine("The Quadratic Equation has one root is: " + x1);

} else {

x1 = -b / (2 \* a);

x2 = Math.Sqrt(-delta) / (2 \* a);

Console.WriteLine("Roots are: " + x1 + " ± " + x2 + "i");

}

}

static void Ex3() {

Console.WriteLine("Please, Enter the Number to Check Prime: ");

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

int check = 0;

if (a <= 2) {

Console.WriteLine("Please re-Enter Number to Check Prime > 2");

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

} else {

for (int i = 2; i <= a/2; i++) {

if (a % i == 0) {

Console.WriteLine("Your Number is not Prime.");

check = 1;

break;

}

}

if (check == 0) {

Console.WriteLine("Your Number is Prime.");

}

}

}

static void Ex4() {

Random rnd = new Random();

int randomNum = rnd.Next(1, 101);

/\*Console.WriteLine($"Number ramdom 1 to 100:{randomNum}");\*/

Boolean done = false;

for (int i = 1; i < 8; i++) {

Console.WriteLine("Chose Number You Want:");

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

Console.WriteLine("Select " + i + " Your Select Is: " + userNum);

if (randomNum == userNum) {

Console.WriteLine("Done!! Nice, You Winner");

done = true;

break;

}

else if (randomNum > userNum) {

Console.WriteLine("Wrong! Random Number > Your Number: " + userNum);

}

else {

Console.WriteLine("Wrong! Random Number < Your Number: " + userNum);

}

}

if (!done) {

Console.WriteLine("You Lose!!!");

}

}

}

}

Product:

