PRACTICAL 1

AIM:

Introduction to c#:

Variables:

Initialization

Scope

Constant

Predefined Data Types

Value Types

Reference TYpes

Flow Control

Conditional Statements(if, switch)

Loop(for, while, dowhile, foreach)

Jump(goto, break, continue, return)

Eumerations

Passing Arguments

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace aim

{

class Program

{

static int newint=100;

public enum TimeOfDay

{

Morning = 0,

Afternoon = 1,

Evening = 2

}

public static void Main(string[] args)

{

Console.WriteLine("\n integer types");

sbyte sb = 10;

short s = 33;

int i = 10;

long l = 33L;

byte b = 22;

ushort us = 33;

uint ul = 33u;

ulong ulo = 33ul;

Console.WriteLine("{0},{1},{2},{3},{4},{5},{6},{7}", sb, s, i, l, b, us, ul, ulo);

float f = 1.122345656767f;

double d = 12.1234455657878797;

Console.Write("\nFloat and Double:\n");

Console.WriteLine("{0} and \n{1}", f, d);

decimal dec=111.666666666666666666666M;

Console.WriteLine("decimal:\n{0} ",dec);

Console.WriteLine("\nBoolean:");

bool boolean =true;

Console.WriteLine("Status: " + boolean);

// Console.ReadLine();

char character ='d';

Console.WriteLine(character);

character = '\0';

Console.WriteLine("Now null: " + character);

object o1 = "Hi, I am divya";

object o2 = 15.3454365;

string strObj = o1 as string;

Console.WriteLine(strObj);

Console.WriteLine(o1.GetHashCode() + " " + o1.GetType());

Console.WriteLine(o2.GetHashCode() + " " + o2.GetType());

Console.WriteLine(o1.Equals(o2));

string s1, s2;

s1 = "this is string";

s2 = s1;

Console.WriteLine("S1 is: {0} and s2 is {1}", s1, s2);

s2 = "other string";

Console.WriteLine("S1 is: {0} and s2 is {1}", s1, s2);

s1 = "c:C:\\Users\\Dell\\source\\repos\\aim";

Console.WriteLine(s1);

s1 = @"c:C:\Users\Dell\source\repos\aim\aim";

Console.WriteLine(s1);

s1 = @"We can also write

like this";

Console.WriteLine(s1);

bool isZero;

Console.WriteLine("\nFlow Control: (if)\ni is " + i);

if (i == 10)

{

isZero = true;

Console.WriteLine("i is Zero {0}",isZero);

}

else

{

isZero = false;

Console.WriteLine("i is Non - zero");

}

int integerA = 1;

Console.WriteLine("\nSwitch:");

switch (integerA)

{

case 1:

Console.WriteLine("integerA = 1");

break;

case 2:

Console.WriteLine("integerA = 2");

//goto case 3;

break;

case 3:

Console.WriteLine("integerA = 3");

break;

default:

Console.WriteLine("integerA is not 1, 2, or 3");

break;}

WriteGreeting(TimeOfDay.Morning);

Console.WriteLine("Argument is: {0}",args[1]);

void WriteGreeting(TimeOfDay timeOfDay)

{

switch (timeOfDay)

{

case TimeOfDay.Morning:

Console.WriteLine("Good morning!");

break;

case TimeOfDay.Afternoon:

Console.WriteLine("Good afternoon!");

break;

case TimeOfDay.Evening:

Console.WriteLine("Good evening!");

break;

default:

Console.WriteLine("Hello!");

break;

}}

Console.WriteLine("Scope of Variables.\n1:");

int newint=0;

int j;

for (/\*int\*/ j = 0; j < 2; j++) //removing comment from for loop will raise error

{

//int j;

//uncomment above line to error "A local variable named 'j' cannot be declared in this

//scope because it would give a different meaning to 'j', which is already

//used in a 'parent or current' scope to denote something else"

Console.Write("{0} {1}\n", newint, Program.newint);

}

Console.WriteLine("2:");

for (int k = 0; k < 3; k++)

{

Console.Write("{0} ", k);

}//Scope of k ends here

Console.Write("\n");

//Console.Write(k);

//uncomment above line to see error "The name 'k' does not exist in the current context"

for (int k = 3; k > 0; k--)

{

Console.Write("{0} ", k);

}//scope of k ends here again

Console.WriteLine("Constants");

const int valConst = 100; // This value cannot be changed.

Console.WriteLine("{0} is constant value", valConst);

//valConst = 45;

//uncomment above line to see error "The left-hand side of an assignment must be a variable, property or indexer"

//const only allow constant variables into the expression

const int valConst2 = valConst + 9 /\* + j\*/;

//remove comments from the above line to see error "The expression being assigned to 'valConst2' must be constant"

Console.WriteLine("Another Constant: {0}", valConst2);

Console.WriteLine("\nPredefined Data Types\n\nValue Types and Reference Types");

//Value Types

int vali = 2, valj = vali;

Console.WriteLine("vali is: {0} and valj is: {1}", vali, valj);

valj = 90;

Console.WriteLine("vali is: {0} and valj is: {1}", vali, valj);

//Referece Types

Vector x, y;

x = new Vector();

x.value = 3;

y = x;

Console.WriteLine("x is: {0} and y is:{1}", x.value, y.value);

y.value = 234;

Console.WriteLine("x is: {0} and y is:{1}", x.value, y.value);

//If a variable is a reference, it is possible to indicate that it does not refer to any object by setting its value to null:

y = null;

//Console.Write("Value for y is: " + y.value);

//uncomment above line to see runtime exception "System.NullReferenceException: Object reference not set to an instance of an object."

//CTS

}

public class Vector

{

public int value;

}

}

}