I. Vienkāršāku programmu piemēri

Visual C++ .NET

```
1.    //hello.cpp
2.    //cmd line: cl hello.cpp /CLR /link /entry:main
3.    #using <mscorlib.dll>
4.    using namespace System;
5.    void main()
6.    {
7.          Console::WriteLine(L"C++ Hello, World!");
8.    }
```

Visual C# .NET

```
1.    //hello.cs
2.    //cmd line: csc hello.cs
3.
4.    using System;
5.    class MainApp
6.    {
7.          public static void Main()
8.          {
9.                Console.WriteLine("C# Hello, World!");
10.         }
11.   }
```

Visual VB .NET

```
1.    'hello.vb
2.    'cmd line: vbc hello.vb
3.    Imports System
4.    Public Module modmain
5.    Sub Main()
6.          Console.WriteLine("VB Hello, World!")
7.    End Sub
8.    End Module
```

II. Objektorientētu programmu piemēri

Visual Managed C++ .NET

```
1.    #using <mscorlib.dll>
2.    using namespace System;
3.    namespace Lang
4.    {
5.          __gc __interface ISteering
6.          {
7.                void TurnLeft();
8.                void TurnRight();
9.          };
10.         __gc class Vehicle : public ISteering
11.         {
12.         public:
13.               void TurnLeft()
14.               {
15.                     Console::WriteLine("Transportlīdzeklis griežas pa kreisi");
16.               }
17.               void TurnRight()
18.               {
19.                     Console::WriteLine("Transportlīdzeklis griežas pa labi");
20.               }
21.               virtual void ApplyBrakes()=0;
22.         };
```

```
23.          __gc class Car : public Vehicle
24.          {
25.          public:
26.                 void ApplyBrakes()
27.                 {
28.                        Console::WriteLine("Auto mēģina apstaties");
29.                        throw new Exception("Bremzes ir sabojātas");
30.                 }
31.          };
32.    } //namespace Lang
33.    void main()
34.    {
35.          try
36.          {
37.                 Lang::Vehicle *pv = 0;
38.                 pv = new Lang::Car();
39.                 pv->TurnLeft();
40.                 pv->ApplyBrakes();
41.          }
42.          catch (Exception *pe)
43.          {
44.                 Console::WriteLine(pe->ToString());
45.          }
46.    }
```

Programmas rezultāti:

```
Transportlīdzeklis griežas pa kreisi
Auto mēģina apstaties
System.Exception: Bremzes ir sabojātas
   at Lang.Car.ApplyBrakes() in d:\net\vc++\oop\vehicle.cpp:line 30
   at main() in d:\net\vc++\oop\vehicle.cpp:line 41
Press any key to continue
```

VB .NET

```
1.     Imports System
2.     Namespace Lang
3.     Interface ISteering
4.           Sub TurnLeft()
5.           Sub TurnRight()
6.     End Interface
7.     MustInherit Class Vehicle
8.       Implements ISteering
9.           Public Sub TurnLeft() Implements ISteering.TurnLeft
10.                Console.WriteLine("Transportlīdzeklis griežas pa kreisi")
11.          End Sub
12.          Public Sub TurnRight() Implements ISteering.TurnRight
13.                Console.WriteLine("Transportlīdzeklis griežas pa labi")
14.          End Sub
15.          Public MustOverride Sub ApplyBrakes()
16.    End Class
17.    Class Car
18.      Inherits Vehicle
19.          Public Overrides Sub ApplyBrakes()
20.                Console.WriteLine("Auto mēģina apstaties")
21.                throw new Exception("Bremzes ir sabojātas")
22.          End Sub
23.    End Class
24.    End Namespace
25.    Public Module Driver
26.          Sub Main()
27.                Try
28.                   Dim v as Lang.Vehicle
29.                   v = New Lang.Car
```

```
30.                   v.TurnLeft()
31.                   v.ApplyBrakes()
32.                Catch e as Exception
33.                   Console.WriteLine(e.ToString())
34.                End Try
35.          End Sub
36.    End Module
```

C# .NET

```
1.     using System;
2.     namespace Lang
3.     {
4.           interface ISteering
5.           {
6.                 void TurnLeft();
7.                 void TurnRight();
8.           }
9.           abstract class Vehicle : ISteering
10.          {
11.                public void TurnLeft()
12.                {
13.                      Console.WriteLine("Transportlīdzeklis griežas pa kreisi");
14.                }
15.                public void TurnRight()
16.                {
17.                      Console.WriteLine("Transportlīdzeklis griežas pa labi");
18.                }
19.                public abstract void ApplyBrakes();
20.          }
21.          class Car : Vehicle
22.          {
23.                public override void ApplyBrakes()
24.                {
25.                      Console.WriteLine("Auto mēģina apstaties");
26.                      throw new Exception("Bremzes ir sabojātas");
27.                }
28.          }
29.    } // Lang
30.    class Drive
31.    {
32.          public static void Main()
33.          {
34.                try
35.                {
36.                      Lang.Vehicle v = null;
37.                      v = new Lang.Car();
38.                      v.TurnLeft();
39.                      v.ApplyBrakes();
40.                }
41.                catch (Exception e)
42.                {
43.                      Console.WriteLine(e.ToString());
44.                }
45.          }
46.    }
```

III. Metadati

```
1.    using System;
2.    using System.IO;
3.    using System.Reflection;
4.    public class Meta
5.    {
6.          public static int Main()
7.          {
```

```
8.                Assembly a = Assembly.LoadFrom("hello.exe");
9.                Module [] m = a.GetModules();
10.               Type [] types = m[0].GetTypes();
11.               Type type = types[0];
12.               Console.WriteLine("Tips[{0}] satur sekojosas metodes:", type.Name);
13.               MethodInfo [] mInfo = type.GetMethods();
14.               foreach (MethodInfo mi in mInfo)
15.               {
16.                     Console.WriteLine("  {0}", mi);
17.               }
18.               return 0;
19.         }
20.   }
```

Programmas izpildes rezultāti:

```
Tips[MainApp] satur sekojosas metodes:
  Int32 GetHashCode()
  Boolean Equals(System.Object)
  System.String ToString()
  Void Main()
  System.Type GetType()
```

IV. Valodu integrācija

```
1.    // vehicle.cpp
2.    // cmd lines to compile:
3.    //     cl /CLR /c vehicle.cpp
4.    //     link -dll /out:vehicle.dll -noentry vehicle.obj
5.    #using <mscorlib.dll>
6.    using namespace System;
7.    public __gc __interface ISteering
8.    {
9.          void TurnLeft();
10.         void TurnRight();
11.   };
12.   public __gc class Vehicle : public ISteering
13.   {
14.   public:
15.         virtual void TurnLeft()
16.         {
17.               Console::WriteLine("Transportlīdzeklis griežas pa kreisi");
18.         }
19.         virtual void TurnRight()
20.         {
21.               Console::WriteLine("Transportlīdzeklis griežas pa labi");
22.         }
23.         virtual void ApplyBrakes()=0;
24.   };
```

```
1.    'car.vb
2.    'cmd line to compile:
3.    '      vbc /r:vehicle.dll /t:library /out:car.dll car.vb
4.    Imports System
5.    Public Class Car
6.        Inherits Vehicle
7.        Public Overrides Sub TurnLeft()
8.            Console.WriteLine("Car turn left")
9.        End Sub
10.       Public Overrides Sub TurnRight()
11.           Console.WriteLine("Car turn right")
12.       End Sub
13.       Public Overrides Sub ApplyBrakes()
14.           Console.WriteLine("Car is trying to stop")
15.           Throw New Exception("Brakes is breaken")
16.       End Sub
```

```
17.   End Class
```

```
1.    // plane.cs
2.    // cmd line to compile
3.    //     csc /r:vehicle.dll /t:library /out:plane.dll plane.cs
4.    using System;
5.    public class Plane : Vehicle
6.    {
7.          override public void TurnLeft()
8.          {
9.                Console.WriteLine("Plane turn Left");
10.         }
11.         override public void TurnRight()
12.         {
13.               Console.WriteLine("Plane turn Right");
14.         }
15.         override public void ApplyBrakes()
16.         {
17.               Console.WriteLine("Aerodinamic brakes was used");
18.         }
19.   }
```

```
1.    // drive.cs
2.    // cmd line to compile
3.    //     csc /r:vehicle.dll;car.dll;plane.dll /t:exe /out:drive.exe drive.cs
4.    using System;
5.    class TestDrive
6.    {
7.          public static void Main()
8.          {
9.                Vehicle v;
10.
11.               try
12.               {
13.                     Plane p = new Plane();
14.                     v = p;
15.                     v.TurnLeft();
16.                     v.ApplyBrakes();
17.
18.                     Car c = new Car();
19.                     v = c;
20.                     v.TurnLeft();
21.                     v.ApplyBrakes();
22.               }
23.               catch(Exception e)
24.               {
25.                     Console.WriteLine(e.ToString());
26.               }
27.         }
28.   }
```

Programmas rezultāti:

```
Plane turn Left
Aerodinamic brakes was used
Car turn left
Car is trying to stop
System.Exception: Brakes is breaken
       at Car.ApplyBrakes()
       at TestDrive.Main()
```

Windows Forms

C#

```
1.   //wfcs.cs
2.   //cmd line: csc /t:winexe wfcs.cs
3.   using System.Windows.Forms;
4.   class HelloForm
5.   {
6.          public static void Main()
7.          {
8.                 Form form = new Form();
9.                 form.Text = "Hello!";
10.                Application.Run(form);
11.         }
12.  }
```

VB.NET

```
1.   'wfvb.vb
2.   'cmd line:
3.   'vbc /r:System.dll /r:System.Windows.Forms /t:winexe wfvb.vb
4.   Imports System.Windows.Forms
5.   Module ModMain
6.
7.   Public Sub Main()
8.          Dim myform As New Form()
9.          myform.Text = "Hello!"
10.         Application.Run(myform) 'nav obligāti valodā VB (var savādāk)
11.  End Sub
12.  End Module
```

C++

```
1.   #using <mscorlib.dll>
2.   #using <System.dll>
3.   #using <System.Windows.Forms.dll>
4.   using namespace System;
5.   using namespace System::Windows::Forms;
6.   int __stdcall WinMain(long hInstance, long hPrevInstance,
7.                                        long lpCmdLine, int nCmdShow)
8.   {
9.          Form *myform;
10.         myform = new Form();
11.         myform->Text = "Hello!";
12.         Application::Run(myform);
13.  }
```

V. ADO.NET

Atvērts savienojums ar datu bāzi

```
1.   using System;
2.   using System.Data;
3.   using System.Data.OleDb;
4.   public class MyMainClass
5.   {
6.          public static void Main()
7.          {
8.                 OleDbConnection con;
9.
10.                con = new OleDbConnection();
11.                con.ConnectionString =
12.                       "Provider=Microsoft.Jet.OLEDB.4.0;" +
13.                       "Data Source=D:\\net\\ado\\db1.mdb";
14.                con.Open();
```

```
15.                OleDbCommand cmd = new OleDbCommand();
16.                cmd.Connection = con;
17.                cmd.CommandText = "Select * from Table1";
18.                OleDbDataReader rd = cmd.ExecuteReader();
19.                while(rd.Read())
20.                {
21.                       for (int i=0; i<rd.FieldCount; i++)
22.                              Console.Write(rd.GetValue(i).ToString());
23.                       Console.WriteLine("");
24.                }
25.         }
26.  }
```

Darbs atvienota režīmā

```
1.   using System;
2.   using System.Data;
3.   using System.Data.OleDb;
4.
5.   public class MyMainClass
6.   {
7.          public static void Main()
8.          {
9.                 OleDbConnection con;
10.                OleDbDataAdapter da;
11.                DataSet ds;
12.
13.                con = new OleDbConnection();
14.                con.ConnectionString =
15.                       "Provider=Microsoft.Jet.OLEDB.4.0;" +
16.                       "Data Source=D:\\net\\ado\\db1.mdb";
17.                con.Open();
18.                da = new OleDbDataAdapter(
19.                              "Select * From Table1",
20.                              con);
21.                ds = new DataSet();
22.                da.Fill(ds);
23.                con.Close();
24.                DataTable tbl = ds.Tables["Table"];
25.                foreach (DataRow row in tbl.Rows)
26.                {
27.                       foreach(Object val in row.ItemArray)
28.                       {
29.                              Console.Write(val.ToString());
30.                       }
31.                       Console.WriteLine("");
32.                }
33.         }
34.  }
```

VI. .NET Remoting izmantošana dalītu lietojumu izstrādei

Serveris

```
1.     // server.cs
2.     // cmd line to compile:
3.     //     csc server.cs
4.     using System;
5.     using System.Runtime.Remoting;
6.     using System.Runtime.Remoting.Channels;
7.     using System.Runtime.Remoting.Channels.Tcp;
8.     public class CoHello : MarshalByRefObject
9.     {
10.           public static void Main()
11.           {
```

```
12.                 TcpChannel channel = new TcpChannel(4000);
13.                 ChannelServices.RegisterChannel(channel);
14.                 RemotingConfiguration.RegisterWellKnownServiceType(
15.                       typeof(CoHello), // type
16.                       "HelloDotNet",   // URI
17.                       WellKnownObjectMode.Singleton //SingleCall vai Singleton
18.                       );
19.                 System.Console.WriteLine("Press <Enter> to exit");
20.                 System.Console.ReadLine();
21.           }
22.           public void SayHello()
23.           {
24.                 Console.WriteLine("Hello .NET");
25.           }
26.     }
```

Klients

```
1.      // client.cs
2.      // cmd line to compile
3.      //     csc /r:server.exe client.cs
4.      using System;
5.      using System.Runtime.Remoting;
6.      using System.Runtime.Remoting.Channels;
7.      using System.Runtime.Remoting.Channels.Tcp;
8.      public class Client
9.      {
10.           public static void Main()
11.           {
12.                 try
13.                 {
14.                       TcpChannel channel = new TcpChannel();
15.                       ChannelServices.RegisterChannel(channel);
16.
17.                       CoHello h = (CoHello) Activator.GetObject(
18.                             typeof(CoHello),                  // type
19.                             "tcp://127.0.0.1:4000/HelloDotNet"      // URI
20.                       );
21.
22.                       h.SayHello();
23.                 }
24.                 catch (Exception e)
25.                 {
26.                       Console.WriteLine(e.ToString());
27.                 }
28.           }
29.     }
```

VII. ASP.NET

```
1.      <html>
2.      <script language="VB" runat="server">
3.            Public Sub Page_Load()
4.                  lblTest.Text = "Hello! Page_Load event occured."
5.            End Sub
6.      </script>
7.      <body>
8.      <form id="Form" runat="server" />
9.            <asp:Label id="lblTest" runat="server" />
10.     </form>
11.     </body>
12.     </html>
```