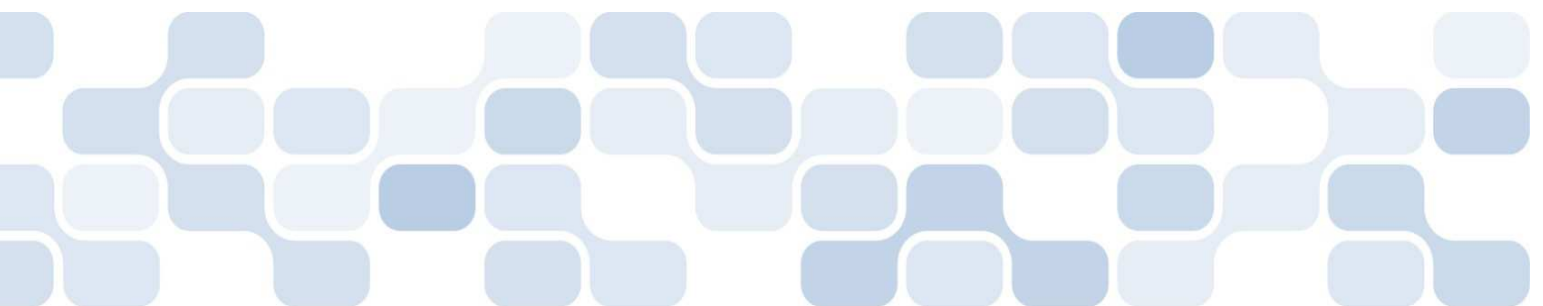


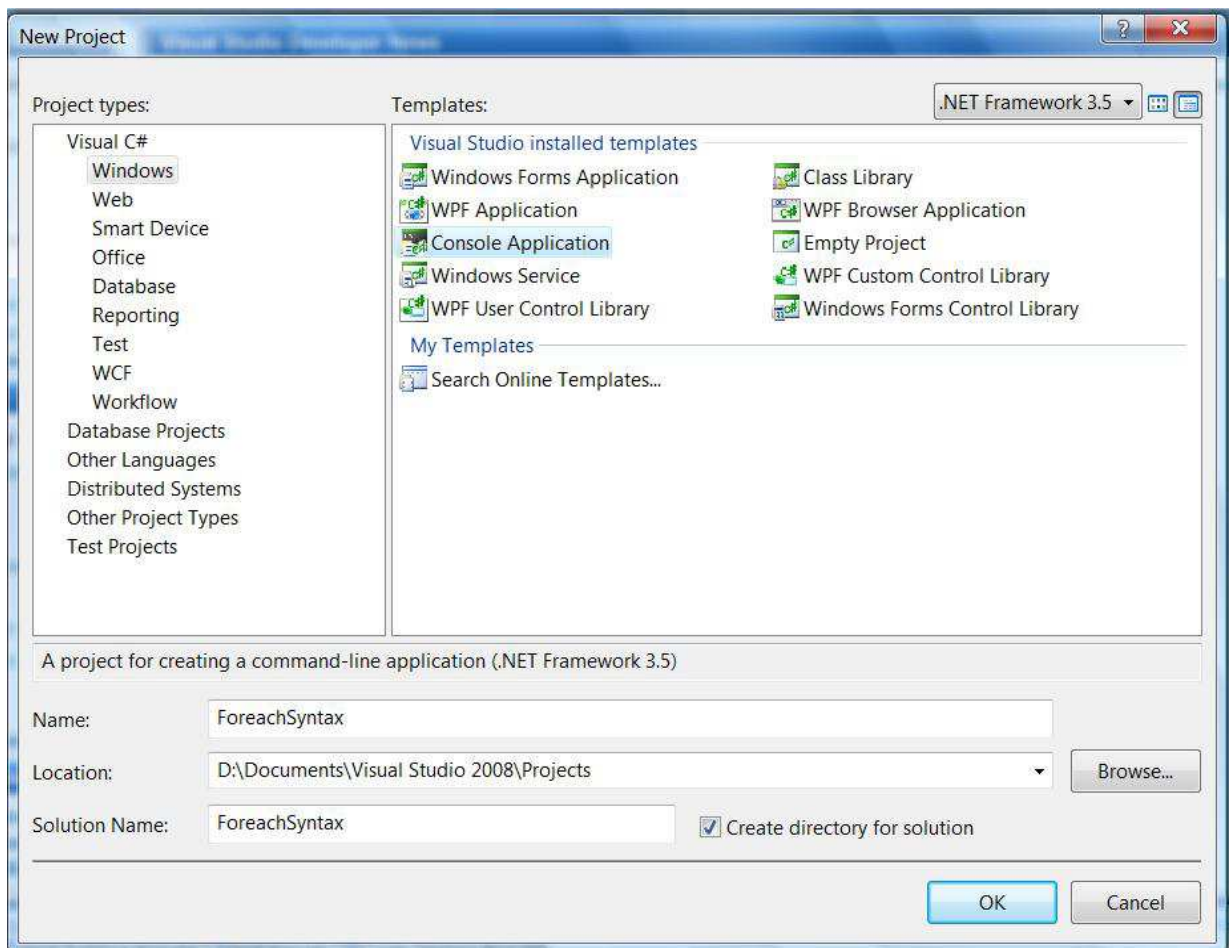


Core C# Programming Constructs
Hands-on Lab



Task 1 – Creating the ‘Lab01’ Project

1. Click the **Start | Programs | Microsoft Visual Studio 2008 | Microsoft Visual Studio 2008** menu command.
2. Click the **File | New | Project...** menu command.
3. In the **New Project** dialog select the **Visual C# | Windows** project type.
4. Select the **Console Application** template.
5. Provide a name for the new project by entering “Lab01” in the **Name** field.



6. Click **OK**.

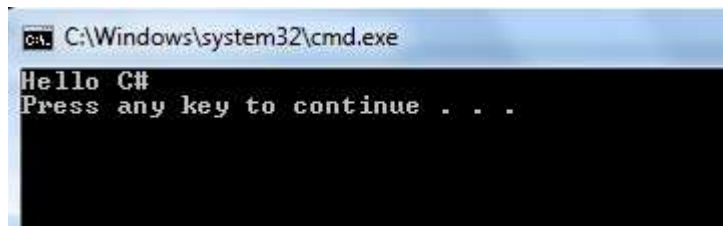
Task 2 – Output to console

1. In the **Solution Explorer**, double click on **Program.cs** to open the source code.

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace Lab01
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Hello C#");
        }
    }
}
```

2. Press **Ctrl+F5** to build and run the application, displaying the output in a console window:



3. Press any key to close the console window and terminate the program.

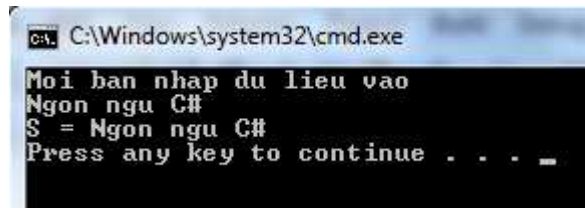
Task 2 – Input from console

4. Change the source file to

```
class Program
{
    static void Main(string[] args)
    {
        Console.WriteLine("Moi ban nhap du lieu vao");

        //Khai báo biến
        string s;
        //Gan dữ liệu cho biến
        s = Console.ReadLine();
        //In dữ liệu biến x ra màn hình
        Console.WriteLine("S = " + s);
    }
}
```

5. Obtain the result (Press Ctrl + F5)



Task 3 – Input from console – use “using” keyword

1. Change the source file to:

Remove following code lines:

```
using System;  
using System.Collections.Generic;  
using System.Linq;  
using System.Text;
```

2. Compile and obtain the errors (Press Ctrl + Shift + B)

Error List					
3 Errors 0 Warnings 0 Messages					
	Description	File	Line	Column	Project
1	The name 'Console' does not exist in the current context	Program.cs	9	13	Lab01
2	The name 'Console' does not exist in the current context	Program.cs	14	17	Lab01
3	The name 'Console' does not exist in the current context	Program.cs	16	13	Lab01

```
static void Main(string[] args)  
{  
    Console.WriteLine("Moi ban nhap du lieu vao");  
  
    //Khai báo biến  
    string s;  
    //Gan dữ liệu cho biến  
    s = Console.ReadLine();  
    //In dữ liệu biến x ra màn hình  
    Console.WriteLine("S = " + s);  
}
```

3. Modify the source code again:

```

using System;

namespace Lab01
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Moi ban nhap du lieu vao");

            //Khai báo biến
            string s;
            //Gan dữ liệu cho biến
            s = Console.ReadLine();
            //In dữ liệu biến x ra màn hình
            Console.WriteLine("S = " + s);
        }
    }
}

```

4. Re-compile and obtain the result.

Task 4 – Data Type conversion

1. Create new project “Demo”
2. Write the following program:

```

using System;
namespace Lab01
{
    class Program
    {
        static void Main(string[] args)
        {
            int n;
            Console.WriteLine("Nhap n:");
            n = Console.ReadLine();
            for( int i = 1; i <= n; i++)
            {
                Console.Write(i + " ");
            }
            Console.ReadLine();
        }
    }
}

```

3. What is the result?

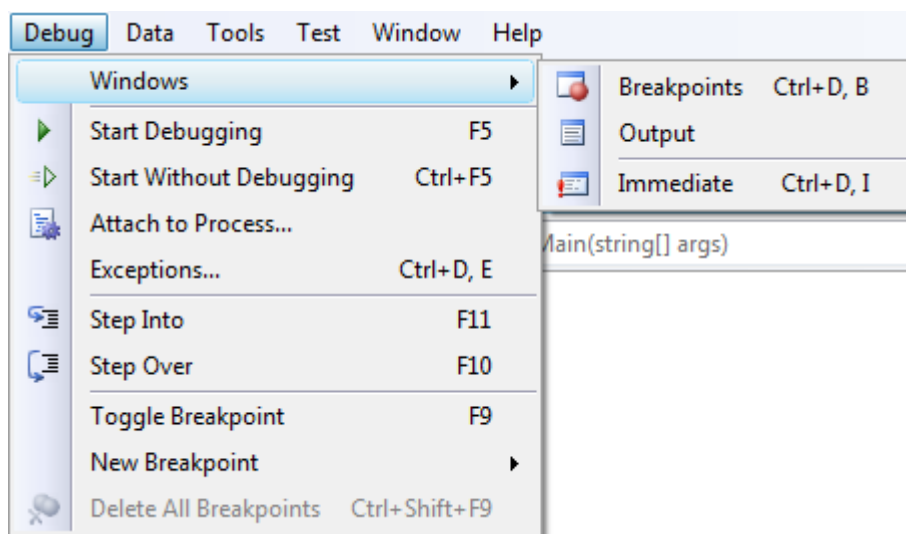
Error List					
1 Error		0 Warnings		0 Messages	
	Description	File	Line	Column	Project
	1 Cannot implicitly convert type 'string' to 'int'	Program.cs	10	17	Lab01

4. Modify the source to:

```
using System;
namespace Lab01
{
    class Program
    {
        static void Main(string[] args)
        {
            int n;
            Console.WriteLine("Nhap n:");
            n = int.Parse(Console.ReadLine());
            for( int i = 1; i <= n; i++)
            {
                Console.Write(i + ";");
            }
            Console.ReadLine();
        }
    }
}
```

Task 5. Debug program

1. Set breakpoint



2. Press F10 to Step Over

```

using System;
namespace Lab01
{
    class Program
    {
        static void Main(string[] args)
        {
            int n;
            Console.WriteLine("Nhap n:");
            n = int.Parse(Console.ReadLine());
            for( int i = 1; i <= n; i++)
            {
                Console.Write(i + ";");
            }
            Console.ReadLine();
        }
    }
}

```

Obtain the value of “i”

Locals		
Name	Value	Type
args	{string[0]}	string[]
i	2	int
n	5	int

Using “Watch” View

The screenshot shows the Visual Studio IDE with a C# program. A context menu is open over the variable 'i' in the code, with the 'Add Watch' option selected. Below the code, the Watch window is visible, showing a table with the following data:

Watch 1		
Name	Value	Type
i	2	int

Task 6. Try and catch exception

1. Open the Demo project

```
using System;
namespace Lab01
{
    class Program
    {
        static void Main(string[] args)
        {
            int n;
            Console.WriteLine("Nhap n:");
            n = int.Parse(Console.ReadLine());
            for( int i = 1; i <= n; i++)
            {
                Console.Write(i + ";");
            }
            Console.ReadLine();
        }
    }
}
```

2. Press F5 to run program.
3. Enter "abc" from console
4. Obtain the result
5. What is the error?
6. Modify the source:

```
static void Main(string[] args)
{
    try
    {
        int n;
        Console.WriteLine("Nhap n:");
        n = int.Parse(Console.ReadLine());
        for (int i = 1; i <= n; i++)
        {
            Console.Write(i + ";");
        }
        Console.ReadLine();
    }
    catch
    {
        Console.WriteLine("Ban nhap du lieu khong dung");
    }
}
```

7. Repeat below steps and obtain the result.