

## Modular:

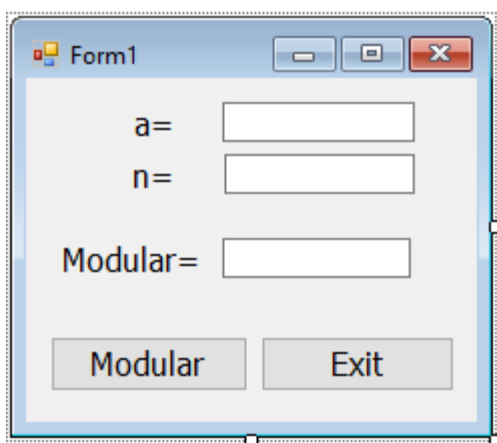
```
Public Class Form1
    Private Sub Button1_Click(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles Button1.Click

        Dim a As Integer = TextBox1.Text
        Dim n As Integer = TextBox2.Text
        Dim q As Integer, r As Integer
        q = a \ n
        r = a - q * n
        If r < 0 Then
            r += n
        End If
        TextBox3.Text = r
    End Sub

    Private Sub Button2_Click(ByVal sender As System.Object, ByVal
e As System.EventArgs) Handles Button2.Click

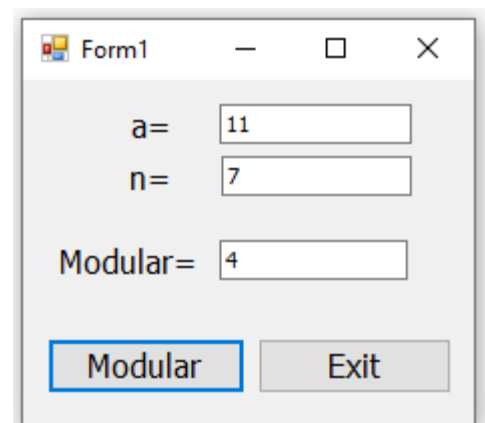
    End
End Sub
End Class
```

### Design interface



The design interface of Form1 shows three text boxes labeled 'a=', 'n=', and 'Modular=' arranged vertically. Below them are two buttons labeled 'Modular' and 'Exit'.

### Execution interface



The execution interface of Form1 shows the same form as the design interface, but with the text boxes filled with values: 'a=' is 11, 'n=' is 7, and 'Modular=' is 4. The 'Modular' button is highlighted with a blue border.

# Fast-Exponentiation:

```
Public Class Form1
```

```
    Private Sub Button1_Click(ByVal sender As System.Object, ByVal  
e As System.EventArgs) Handles Button1.Click
```

```
        Dim a As Integer = TextBox1.Text
```

```
        Dim z As Integer = TextBox2.Text
```

```
        Dim n As Integer = TextBox3.Text
```

```
        Dim x As Integer = 1
```

```
        While z <> 0
```

```
            While z Mod 2 = 0
```

```
                z = z \ 2
```

```
                a = (a * a) Mod n
```

```
            End While
```

```
            z -= 1
```

```
            x = (x * a) Mod n
```

```
        End While
```

```
        MsgBox(x, , "X=")
```

```
    End Sub
```

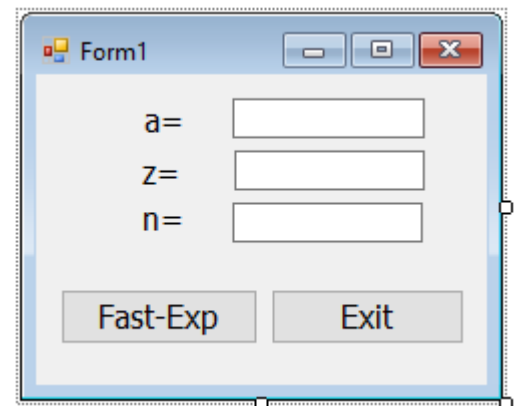
```
    Private Sub Button2_Click(ByVal sender As System.Object, ByVal  
e As System.EventArgs) Handles Button2.Click
```

```
        End
```

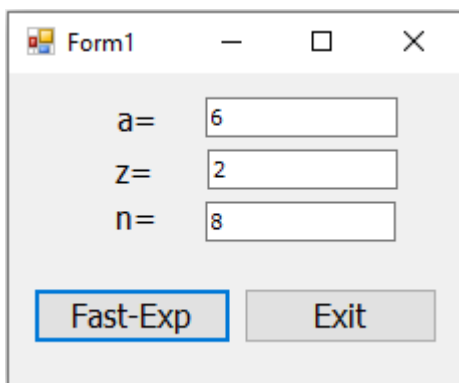
```
    End Sub
```

```
End Class
```

## Design interface



## Execution interface



## Result

