C# PROGRAMMING

Mouse States
In C#, you can include several mouse states when building your programs. The various mouse states cause the program to respond differently depending on what state you use. The mouse states react with objects such as buttons.
What are the various states?

- **MouseDown** – an event when the left mouse button is held down
- **MouseUp** – an event when the LMB is released
- **MouseHover** – an event when the mouse pointer enters an object
- **MouseLeave** – an event when the mouse pointer leaves an object
- **MouseClick** – an event when the LMB is clicked on an object
You need to program for both states, since this is a temporary condition. You will not be holding the button down forever.

```csharp
private void b1_MouseDown(object sender, MouseEventArgs e)
{
    pb1.Visible = true;
}

private void b1_MouseUp(object sender, MouseEventArgs e)
{
    pb1.Visible = false;
}
```
Again, you need to program for both states, since this is a temporary condition. If your mouse enters, it will leave.

```csharp
private void b2_MouseHover(object sender, EventArgs e)
{
    pb2.Visible = true;
}

private void b2_MouseLeave(object sender, EventArgs e)
{
    pb2.Visible = false;
}
```
This is a single event. Using an if statement will allow you to toggle the state.

```csharp
if(pb3.Visible == false)
{
    pb3.Visible = true;
}
else if (pb3.Visible == true)
{
    pb3.Visible = false;
}
```
My Example

Technology Over the Years

Datacette
5.25 Floppy
3.5 Floppy
I hold down the LMB

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- Datacette
- 5.25 Floppy
- 3.5 Floppy
The LMB is released

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- Datasette
- 5.25 Floppy
- 3.5 Floppy
My mouse enters the button

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Datacette

5.25 Floppy

3.5 Floppy
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Datacette
5.25 Floppy
3.5 Floppy
I click once

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Datacette  5.25 Floppy  3.5 Floppy
I click again

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Datacette  5.25 Floppy  3.5 Floppy
Conclusion

- The various mouse states cause the same thing to happen
- How the user interacts with the objects differs based on the mouse states, so this affects the user’s interaction with the program