Reacting to the Mouse and Keyboard

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The `mousePressed`, `mouseX`, and `mouseY` Variables

```java
void draw() {
    stroke(0, 0, 0);
    fill(255, 50, 50);
    if (mousePressed) {
        Circle(mouseX, mouseY, 50, 20);
    }
}
```

`mousePressed` is a built-in variable that is always telling you if a mouse button is currently pressed.

`mouseX` and `mouseY` are built-in variables that are always telling you where the mouse cursor is.
The `mousePressed`, `mouseX`, and `mouseY` Variables

```cpp
void draw( )
{
    stroke( 0, 0, 0 );
    fill( 255, 50, 50 );
    if( mousePressed )
    {
        Circle( mouseX, mouseY, 50, 20 );
    }
}
```
The `mousePressed, mouseX, and mouseY` Variables
The `keyPressed` and `key` Variables

void draw() {
  if( keyPressed ) {
    switch( key ) {
      case 'r':
        fill( 255, 50, 50 );
        break;
      case 'g':
        fill( 50, 255, 50 );
        break;
      case 'b':
        fill( 50, 50, 255 );
        break;
    }
  }
  if( mousePressed ) {
    Circle( mouseX, mouseY, 50, 20 );
  }
}

*The `stroke()` and `fill()` calls have been moved to `setup()`*

*`keyPressed` is a built-in variable that is always telling you if a keyboard key has been pressed*

*`key` is a built-in variable that tells you what key has been hit*

*The `switch/case` statements are Processing’s way of checking many values without having a whole slew of if-statements*
void
draw( )
{
    // moved the stroke( ) and fill( ) calls to setup( )
    if( keyPressed )
    {
        switch( key )
        {
            case 'r':
                fill( 255, 50, 50 );
                break;
            case 'g':
                fill( 50, 255, 50 );
                break;
            case 'b':
                fill( 50, 50, 255 );
                break;
        }
    }
}

if( mousePressed )
{
    Circle( mouseX, mouseY, 50, 20 );
}
You can also define your own functions to handle the mouse and keyboard explicitly, but we don’t need these yet

```java
void mousePressed( )
{
   if( Debug )
      println( "mouse button = " + mouseButton );
}

void mouseMoved( )
{
   if( Debug )
      println( "mouse has been moved: " + mouseX + " , " + mouseY );
}

void mouseDragged( )
{
   if( Debug )
      println( "mouse has been dragged: " + mouseX + " , " + mouseY );
}
```