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 keyPressed and key Variables

```java
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 );
  }
}
```

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.

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

The display of the contents of the document includes a mixture of text and diagrams, illustrating concepts related to computer graphics, specifically focusing on interactions with the mouse and keyboard. The slides provide code examples demonstrating how to use `mousePressed`, `mouseX`, `mouseY`, `keyPressed`, and `key` variables to create interactive graphics. The diagrams and code snippets are designed to help in understanding how to react to user input in a graphics program using Processing, a programming language for visual arts.
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);
}
```