



KEY Events

What is a key event?

Like a **mouse event**, **key events** happen whenever the user presses a key on their keyboard.



Callback Function

Also just like a **mouse event**, we need to **bind** a callback function to that event, so that Python knows what we want to happen each time the user presses a key.



The Binding Function

When we want to bind a callback function to a mouse event, we use

```
add_mouse_click_handler()
```

When we want to bind a callback function to a **key** event, we use

```
add_key_down_handler()
```



Callback Function Deets

The function that we bind to a key press must accept one parameter. The most common name for this parameter is **event**.

If we want to determine the key that was pressed, we can access **event.key**

Ex:

```
def key_pressed(event) :  
    print(event.key)
```



Making choices

We can use an **if** to have our programs make choices!

We're going to make a choice based on which key the user pressed.

```
def key_pressed(event):  
    if event.key == "a":  
        PUT CODE HERE FOR IF THEY PRESSED "a"  
    if event.key == "ArrowLeft":  
        PUT CODE HERE FOR IF THEY PRESSED Left Arrow Key
```



Making choices

We can use an **if** to have our programs make choices!

We're going to make a choice based on which key the user pressed.

```
def key_pressed(event):  
    if event.key == "a":
```

```
        PUT CODE HERE FOR IF THEY PRESSED "a"
```

```
    if event.key == "ArrowLeft":
```

```
        PUT CODE HERE FOR IF THEY PRESSED Left Arrow Key
```

We use **two** equals signs to check if 2 values are equivalent.



Making choices

We can use an **if** to have our programs make choices!

We're going to make a choice based on which key the user pressed.

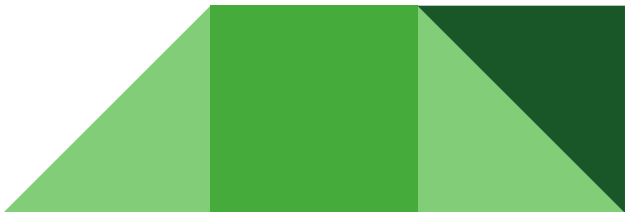
```
def key_pressed(event):  
    if event.key == "a":
```

PUT CODE HERE FOR IF THEY PRESSED "a"

```
    if event.key == "ArrowLeft":
```

PUT CODE HERE FOR IF THEY PRESSED Left Arrow Key

The value in `event.key` is a **string**, so we need to check against a string value.



Special Keys

Enter	Shift
ArrowLeft	Alt
ArrowRight	Tab
ArrowUp	F1 - F12
ArrowDown	Shift + Key (capital letters OR special symbols)



What can we do inside this function?

We can move objects around on the screen using the `move ()` function!

We need to give `2` values to this function:

- The distance (in pixels) to move in the `x` direction
- The distance (in pixels) to move in the `y` direction

We need to use this function on a shape or text we've placed on the screen.



Big Example

```
def key_down(event):  
    if event.key == "ArrowLeft":  
        square.move(-5, 0)  
    if event.key == "ArrowRight":  
        square.move(5, 0)  
    if event.key == "ArrowUp":  
        square.move(0, -5)  
    if event.key == "ArrowDown":  
        square.move(0, 5)
```

```
square = Rectangle(40, 40)  
square.set_position(100, 100)  
add(square)
```

```
add_key_down_handler(key_down)
```

