

QUIZ

You want to write some code that draws ellipses at random positions across the canvas each time your mouse is pressed. If you only want to draw one ellipse per mouse press, no matter how long the press, which mouse event should you use?

The `mousePressed()` function.



Correct! The `mousePressed()` function only runs once upon each press of the mouse.

The `mouseIsPressed` variable.

The `mouseReleased()` function.

The `mouseClicked()` function.

The `keyTyped()` function runs once each time a specified key is pressed but ignores some keys. What kinds of keys are NOT detected with the `keyTyped()` function?

Number keys.

Action keys such as Backspace, Delete, Ctrl, Shift, and Alt.



Correct!

Capitalized letter keys.

Special characters such as !, @, %, *.

Complete the code below to calculate the distance between the center of a p5.js canvas and the mouse position. For the code below, set the canvas center as the first point and the mouse position as the second point of the `dist()` function.

```
let distToMouse = dist( width / 2 , height / 2 , mouseX , mouseY );
```



You got it!

Which of the following statements is true about `mouseX` and `mouseY`?

The `mouseX` and `mouseY` variables need to be declared with a corresponding scope before they can be used.

The built-in `mouseX` and `mouseY` variables always store the current x and y coordinates of the mouse relative to the origin of the canvas.



Correct!

The `mouseX` and `mouseY` variables always store the previous x and y coordinates of the mouse relative to the origin of the canvas.

Both `mouseX` and `mouseY` are user-defined variables that can be programmed to determine the mouse position.

What can the built-in `key` variable be used for?

The `key` variable can be used to store a set of recent key inputs into an array.

The `key` variable can be used to check if a specific key has been pressed.



Correct!

The `key` variable can be used to test the ASCII decimal code of the most recently pressed key.

The `key` variable can be used to hold key press values for later use.

What will the output of the following code be when it runs?

```
function setup() {  
  createCanvas(400, 400);  
}  
  
function draw() {  
  background(220);  
  
  if(mouseIsPressed) {  
    console.log('A red ellipse is drawn.');  } else {  
    console.log('A blue triangle is drawn.');  }  
}
```

'A red ellipse is drawn.' will be logged to the console.

The program will cause an error as the `mouseIsPressed` variable should not be used as a condition of an `if` statement.

'A red ellipse is drawn.' logs to the console when the mouse is pressed, and 'A blue triangle is drawn.' logs to the console when the mouse is not pressed.



Correct!

Fill in the code below to correctly draw the shapes using keyboard interaction.

```
function draw() {  
  if ( ☒ keyIsPressed ){  
    if( ☒ keyCode === 13) {  
      ellipse(width / 2, height / 2, 40, 40);  
    }  
    if( ☒ key === 'a') {  
      rectMode(CENTER)  
      rect(width / 2, height / 2, 40, 40);  
    }  
  }  
}
```



You got it!

Complete the code below so that the rectangle being drawn in the `draw()` function follows the mouse's x and y positions and the mouse's x position sets the width of the rectangle.

```
function setup() {
  createCanvas(500, 500);
  background(220);
}

function draw() {
  fill(255,130,120);
  rectMode(CENTER);
  rect(mouseX, mouseY, mouseX, 75);
}
```



You got it!

Which of the code blocks below represents the proper way the `keyPressed()` function, combined with the built-in `key` variable, can be used to test if a specific key has been pressed?

```
function keyPressed() {
  fill(0, 255, 0);
  rect(random(width), random(height), 100, 75);
}
```

```
function keyPressed() {
  if (key === 'a') {
    fill(0, 255, 0);
    rect(random(width), random(height), 100, 75);
  }
}
```



Correct!

Which of the following is NOT a built-in key event function?

`keyPressed()`

`keyTyped()`

`keyIsPressed()`



Correct! `keyIsPressed` is a built-in variable and not a function.

`keyIsDown()`