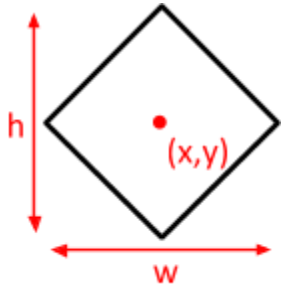


Lecture 10: Input and Output Worksheet

Functions Practice: Diamond

```
----- diamond( ----- ) {
  beginShape();
  vertex( -----, ----- );
  vertex( -----, ----- );
  vertex( -----, ----- );
  vertex( -----, ----- );
  vertex( -----, ----- );
  endShape();
}
```



The diagram shows a diamond shape (a square rotated 45 degrees) with a red dot at its center labeled (x,y) . A vertical red double-headed arrow to the left of the diamond is labeled h , representing its height. A horizontal red double-headed arrow below the diamond is labeled w , representing its width.

Mouse Example: Drawing Dots

- 1) Write out the Processing code below to draw a **red** dot (diameter 20) centered on the current mouse position.

- 2) Write out the Processing code below to draw a **blue** dot (diameter 20) centered on the current mouse position.

Mouse Example: Rectangle Hover

- 1) Write out an expression (*i.e.* what would go inside an **if**) that will return **true** if the mouse is currently over the middle half of the canvas both vertically and horizontally.

Keyboard Example: Keyboard Dots

```
int position = 0;

void setup() {
  size(400, 100);
  noStroke();
  background(0);
  fill(0);
}

void draw() {
  ellipse(position, 40, 40, 40);
}

void keyPressed() {
  if (key == 'g') {
    fill(0, 255, 0);
  }
  if (key == 'y') {
    fill(255, 255, 0);
  }
  if (key == 'm') {
    fill(255, 0, 255);
  }
  position = position + 50;
}
```

- 1) What is initially drawn before any key is pressed?
- 2) What happens if we press 'g' once after we start the program?
- 3) What happens if we press 'k'?