

## Getting Started With Processing

## Learning Programming

- language *syntax* – what is legal to write down
- language *semantics* – what a statement means
  - (what the computer does when it is executed)
- *patterns* of usage – how to combine language elements to achieve a particular effect

## Processing Terminology and Syntax

- programs are called *sketches*
- the *statement* is the basic unit (like a sentence)
  - each statement must end with a semicolon
- *case-sensitive*
  - `rectMode` and `rectmode` are not the same thing
  - avoid defining your own names which differ only in case
- *whitespace* conventions
  - use spaces, tabs, line breaks, blank lines to increase readability
- *comments* are ignored by the computer
  - `//` rest of the line is a comment
  - `/* multi-line comment (between delimiters) */`
  - used to provide explanation to the human reader
  - include your name and a brief description of the program in comments at the beginning of each sketch

### Basic Processing

```
size(width,height);           // open window with specified dimensions

• "other aspects" - set modes that affect subsequent drawing commands
• set line-drawing color
stroke(gray);                  // grayscale; value is 0-255
stroke(r,g,b);                 // RGB color; values are 0-255
stroke(r,g,b,a);               // RGB color with transparency (a);
                               // values are 0-255
• set fill color
fill(gray);                    // grayscale; value is 0-255
fill(r,g,b);                   // RGB color; values are 0-255
fill(r,g,b,a);                 // RGB color with transparency (a);
                               // values are 0-255
noFill();                      // do not fill area
• shape modes
rectMode(CORNER);              // interpret values as left,top,width,height
ellipseMode(CORNER);           // interpret values as left,top,width,height
rectMode(CENTER);             // interpret values as centerX,centerY,width,height
ellipseMode(CENTER);          // interpret values as centerX,centerY,width,height

• drawing commands - draw something on the screen
• clear the background to the specified color
background(gray);              // grayscale; value is 0-255
background(r,g,b);             // RGB color; values are 0-255
background(r,g,b,a);           // RGB color with transparency (a);
                               // values are 0-255
• draw shapes
line(x1,y1,x2,y2);             // draw a line from (x1,y1) to (x2,y2)
point(x,y);                    // draw a point at (x,y)
rect(x,y,w,h);                 // draw rectangle (*)
ellipse(x,y,w,h);              // draw ellipse (*)

(*) The meaning of (x,y) depends on the mode (CENTER or CORNER).
```

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Console Error

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