Using the EV3 Display Block

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The EV3 Display Block

- Okay, we want to display objects (lines, points, circles, rectangles) on the EV3 Screen.
- Note that the screen is inverted top to bottom from what most of us use for graphing purposes, but we can get around that.
- If you were to draw an object (like a line or a dot or a circle) the object corresponds to the coordinates on the EV3 Drawing Grid.
- Dots will be at the coordinates.
- Circles will be centered on the coordinates.
- Rectangles will start at the coordinates.
- And Lines have two sets of Coordinates \((x_1, y_1)\) and \((x_2, y_2)\).
The EV3 Display Block

- Okay, we want to display text on the EV3 Screen
- We have two choices:
- Text – Grid
  - On the Grid Display, the screen is broken into Rows and Columns.
    - There are 22 Columns (0 to 21) and
    - There are 12 Columns (0 to 11)
- Text – Pixel
  - On the Pixel Display, the screen is broken into Quadrants, like on a quadrant graph.
    - There are 355 pixels going from left to right (-177 to +177) and these represent your x coordinate.
    - There are 255 pixels going from top to bottom (-127 to +127) and these represent your y coordinate.
- Text messages are tied to the coordinate used (either Grid or Pixel) and that coordinate represents the START and TOP of your text message.
- So a message “HELLO” located on a GRID at 0,0 would start in the upper left corner
- And the same message located on a PIXEL at 0,0 would start in the dead center of the display (but would display to the RIGHT and just BELOW that center point).
Egad! Things to remember...

- So depending on whether you are:
  - Displaying text (by row and column)
  - Displaying text (by pixel placement) or
  - Displaying a drawing...

- You are using three different graphic arrays.