• wait list
• PA1 due
• quiz 1

Recall:

background (red, green, blue)
fill ( , , , )
stroke ( , , , )

0 ≤ red ≤ 255
0 ≤ green ≤ 255
0 ≤ blue ≤ 255
also have 4-argument version.

\[
\text{fill}(r, g, b, x)
\]

\[d = 0 \quad \text{transparent 100\%}
\]
\[d = 255 \quad \text{opaque 100\%}
\]

note:

\[
\text{fill}(r, g, b, 0)
\]

is same as

\[
\text{noFill()}
\]
HSB colors

colorMode (HSB, 360, 100, 100);

fill (h, s, b);

↑ ↑ ↑

Hue Saturation Brightness
Color wheel:

```
120°
agreen

180°
cyan

240°
blue

300°
magenta

Yellow
60°
```

Base 16, Hexadecimal:

digits: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, F

\[
[317_{16}]_{10} = 3 \cdot 16^5 + 1 \cdot 16^4 + 7 \cdot 16^3 + 12 \cdot 16^2 + 11 \cdot 16^1 + 4 \cdot 16^0
\]
split digits into 3 groups of 2

31 | 7c | 34

1 | 1 | 1

49 124 180

red green blue

color-mode (RGB, 100, 400, 1000);
cr gb

color-mode (RGB, 100);

d ≤ r, g, b ≤ 100
To create moving pictures we must continually re-draw the processing window using built-in functions:

```plaintext
setup()

draw()
```

A typical Processing program looks like:
void setup()
{
  // initialization commands
  // executed once
}

void draw()
{
  // commands to be executed on
  // each frame. default
  // frame rate is 60 frames/sec.
}
System Variables: mouseX
mouseY

Ex. MovingLine.pde

Ex. ContinuousCurve.pde

new System Variables: pmouseX
pmouseY