# Webinar 1A: Introduction to Java Programming Using Processing

* Java syntax
* Program sequence
* Variables
* Expressions

## Learning Objectives

* Familiarity with Processing Environment
  + Writing and saving a program
  + Running a program
  + Correcting syntax errors
* Simple problem decomposition – break problem into smaller chunks
* Program flow (order of commands)
* Using Variables within expressions

## Resources:

open these and have them available for reference

* Processing.org website (add to favourites)

**Exercise 1 Drawing a face**

//this is a comment - draw a face

ellipse(20,20, 10,10); //left eye

point(20,20); //left eye centre

line(20,50, 50,50); //mouth

the code above is a start in drawing a face. Run this. Add the right eye

30

20+30

20,20

y+30

**Exercise 2.** Draw a bemused lizard face similar to the picture.

Design steps?



The fill command (see processing reference page) changes the fill colour using 3 parameters

fill (Red,Green,Blue);

here each parameter has a range of [0..255], so fill( **255**, **0**, **0**) would be **red**.

Because, maximum amount of Red and 0 Green and 0 Blue.

When using multiple fill colours, the fill command is like dipping your paintbrush in a pot of colour. You have only one brush, so when you draw something new it will be filled in the current fill colour.

Save your program.

**Exercise 3** . We are going to amend our green face to allow it to be positioned at an **x** and **y** location. Introduce 2 global variables, **x** and **y** to the top of your code and set them to (100,100). Amend the appropriate commands replacing fixed values with variables.

**Exercise 4**– Alter your code so that the face can be scaled as well as positioned, depending on **x**,**y** & **size** variables. You should introduce new variables to ease the coding.

**Exercise 5 – Debug** , fix the following code

float x;

float size = 50;

30=x;

ellipse(x,y,size/2,size/2);

fill(0,0;

line(x,y,x+size,y);

line(x,y,x+size/2,y-size/2);

line(x+size,y,x+size/2,y-size/2)

ellipse(x,y,size/2,size/2);

**Strategy :**

1. Fix syntax errors – what do we have. Correct from top of file downwards
2. Run it – does it produce something sensible? Try to add comments to blocks of code
3. Correct the logic – in this case, reposition an ellipse, move fill command