Lab Week 3. Modular Code : Procedures

You should have completed Week 1 Stick Person portfolio exercise and last week's exercises (at least as far as exercise 4).

Learning Objectives

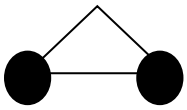
- Top Down Design
- Modularised code
  - Procedures
  - Parameter passing
- Setup
- Local variables

Resources:

- Lecture Notes
- Processing.org website

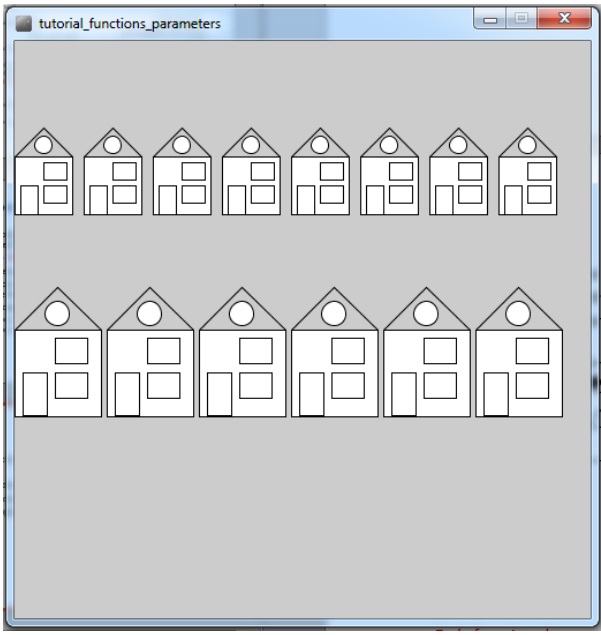
Take a look at this example of a procedure and calls (they refer to the procedure as a void function) https://processing.org/examples/functions.html

Ex1. We are going to draw a simple motorcycle using **procedures** to draw the shape and the whole motorcycle.

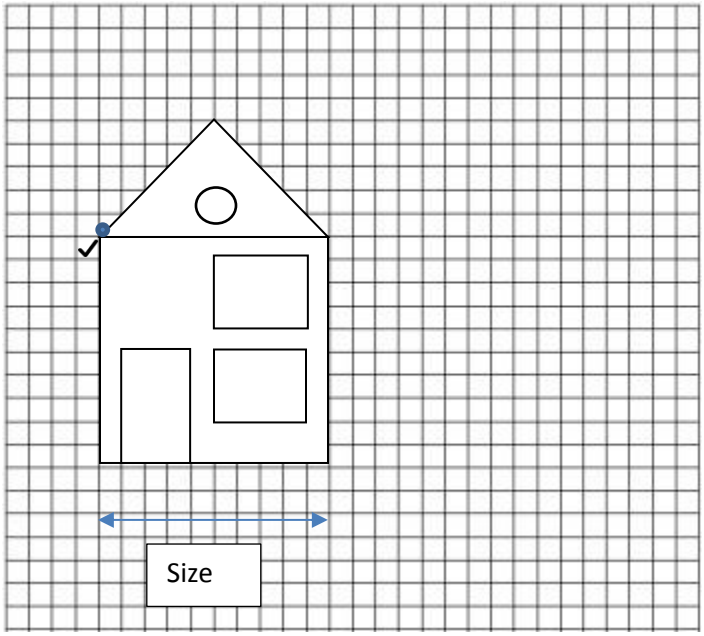


1. As in the lecture, write a procedure (void) with **position** (x,y) and **size** parameters to draw a triangle as shown above, the height should be ½ of the size.
2. As in the lecture, write a procedure to draw a circle, with **position** and **diameter** parameters.
3. Write a procedure to draw a motorbike, as shown above, with **position** and **size** parameters.

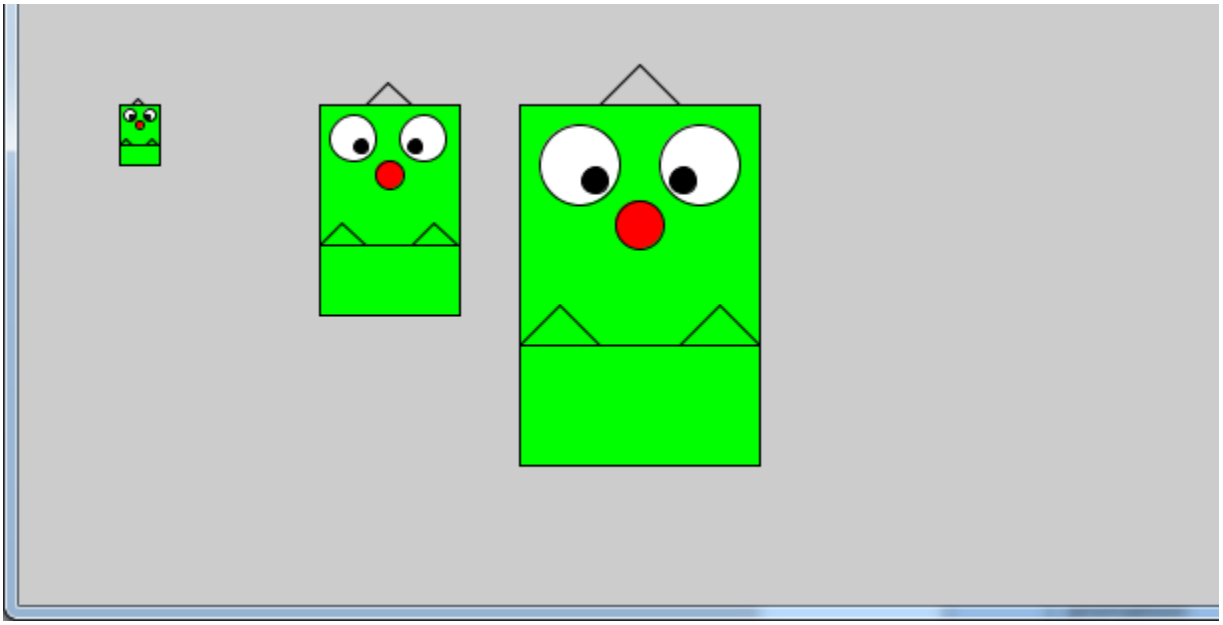
Ex2. Draw a street of houses



In the lecture we considered a top down design to draw a terrace of simple houses (with bottom left hand corner dictated by x,y). Take your design and modify it to produce a street similar to the image (right) and implement the code. Should be **3** stages of top down design. We should be able to set the number of houses (in each terrace), the location and the size of the houses via parameters. Implement a square drawing procedure (you can make use of the **rect** command, see processing reference page) and reuse any suitable procedures from the previous exercise.



Ex3 **(portfolio)**. Draw some monsters, similar to the image below (each monster larger than the last and further right), using a monster procedure (again with position and size parameters) and other procedures using top down design. You should use a **for loop** to call your **monster** procedure repeatedly. Good modular code should be easy to read and understand which bit of code produces which part of the picture. You can reuse your **triangle** and **circle** procedures as well as the **rect** command for the face.



Extension exercise – read through and try out some of the examples in this tutorial on problem solving, drawing more interesting polygons. https://processing.org/tutorials/anatomy/

You should have completed Ex 3 **Monsters** for next week.