Workshop 2: Start programming in Java (part 2)

Worksheet 5: creating a class, writing a `main` program

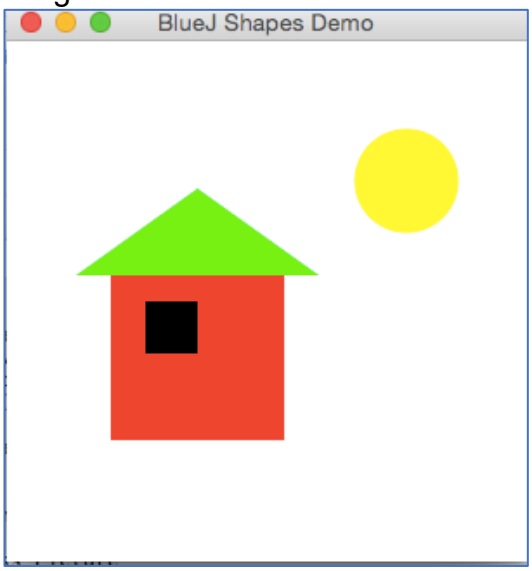
General Steps

Creating a class

1. `/open` the shapes classes from ***load-shapes.txt*** provided in **Workshop 1**.
2. Within the shapes folder, create a new file called ***Picture.java*** and add an empty class declaration called Picture (Capitals are important, including for the filename):
   `public class Picture {}`
3. Open the file ***Picture.txt*** (obtain from Blackboard) in notepad++. Copy the contents of the file to ***Picture.java***, between the { } (two curly braces), i.e. the body of the class.
4. Now, `/open Picture.java`. This will compile the code. If you made any mistakes, the JShell will report back the compiler errors. If you get any, try and fix them, or ask a demonstrator.
5. In JShell type:

```
Picture p = new Picture();
p.draw();
```

   You should see the following in the canvas:



6. Try a few extra methods calls for the `Picture` objects. (Remember to use the tab key to help discover available methods.)
7. After drawing the picture inspect the instance variables in variable `p`. You should now know how to do this.
8. Look at the code carefully.

Running a main program

9. We can also do thing a bit differently using the `main` program. A main program creates some objects and then makes them do something. It also has to live inside a class though. The structure looks like:

```
public class Test {
       public static void main(String args[]) {
           //Your codes here
          }
    }
```

10. In the code part, create a new instance variable for `Picture` class and draw.
11. Now let's Compile and run the code from the Command Prompt (not from JShell):

```
javac Test.java
java Test
```

12. Inspect the ***shapes*** folder. What types of changes you can see?

Tasks (if you have time)

- Create your own Cartoon class (in ***Cartoon.java*** file). Use Picture code and the code you used in **Worksheet 2** to create the `Cartoon` class.
- Compile from the Command Prompt.
- Test your class in a main program by modifying the Test class.
- Compile the `Test` class and then run it.
- Try writing a few more methods for Cartoon that use parameters.