# Fotoshop Critique

## Problems with initial codebase:

**Command.java**

* Three separate string fields being declared – very low maintainability and extendability.
* Code duplication between getters and null checks – could be condensed into a function that was passed a parameter.

**Editor.java**

* There are four string fields for filters (filter1, filter2, etc). This is unnecessary as an ArrayList could be used to contain all filters. This also makes the application less extendable because any logical operations performed on these fields must be done individually as the data is not enumerable.
* PrintWelcome() contains multiple if statements that could be condensed into a for loop.
* Only takes a single image object as a field. This could be changed to an array of images to further extendability.
* processCommand() uses a ‘staircase’ of elseif statements to determine which command the user has entered. Would be tedious to add further commands (extendibility) later.
* printHelp() contains a hard-coded list of available commands. This is difficult to maintain as you would not only have to add each new command, but also update this list each time.
* Look() contains multiple if statements that could be merged into a for loop if filters were stored in an arraylist.
* Magic numbers being used inside mono() – making the code more difficult for other developers to understand, reducing maintainability.
* The functions for each Fotoshop command contain a repeated null check against filter4. This is unnecessary code duplication.
* Code duplication between printWecome() and look(). Could be refactored into its own reusable function.
* Quit could be condensed to use a ternary operator instead of an if/else block.
* Throughout this file there are several instances where multiple printlines have been used – these reduce maintainability and can be condensed using concatenation or string.format.

**Parser.Java**

* Multiple if statements being used to conditionally assign values to each word. This doesn’t support extendability very well as this block of code would need to change if more command words were to be added in future.
* Three string fields set for each word – poor maintainability.