# Software Testing and Reverse Engineering

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# 1 Task 1

In order to keep track of flow propagation, we have added a public static ArrayList, called flowTrack, variable into the MyInt, MyBoolean, and MyString classes. An item is added to flowTrack, upon constructor invocation, and during assignment, by use of the function addFlowVar(String varName), shown in the example bellow.

a=b; a.addFlowVar("a");

We have also added class constructors which accept as a parameter, the name of the variable, which holds the reference to the desired object. This way, we can maintain the names of all the variables of the same class, which are tainted.

For direct assignments, the "myAssign" set of methods has been modified, by simply making use of the newly added constructors. For conditionals, an equals overridden method was added, while in order to cover the case of "if" statements, we simply made use of the addFlowVar, within these statements. The results can be displayed by running the code.

In order to obtain the values for each trace, one only needs to run the code, while obtaining the values for every trace requires to simply un-comment the relevant code.

# 2 Task 2

For this task, we have chosen to implement the data structure in the direct tainting file.

# References