

## Problem 6

### (Preparation)

**//Credit to Patrick Odom and Sheyi Oluwa for part of the code in  
CLASS TicTacToeUI**

#### Question 1:

##### Static type:

A **static variable** is common to all the instances (or objects) of the class because it is a class level **variable**. ... Like **variables** we can have **static** block, **static** method and **static** class, to read about them refer: **static** keyword in **java**.

Example:

```
Graph plot = new Graph();
```

plot = variable and type of variable of plot is Graph which is an object.

##### Dynamic type:

**A dynamic type doesn't need to be define explicitly and can store other objects with different class.**

Example:

```
Graph plot = new Graph();
```

```
Graph plot = new BodePlot();
```

plot is our variable but the object stored here is dynamic.

#### Question 2:

##### Class *Calculator* :

```
private UserInterfaceGui = new UserInterface(engine);
```

**(private UserInterfaceGui)** = static type

**UserInterface(engine)** = dynamic because the object stored In it is different.

**ICalculator calc** = static type.

**calc = engine** = dyamic type.

**Question 3:**

**The class that implements the interface ICalculator is** public class CalcEngine implements the interface.

In order to be compatible all those methods declared In interface should be present In the class which implements it and should be public.