Variables in Java

1. Types of variables

We see three kinds of variables in Java.

1. **Local variables:** They are defined within a method.

2. **Instance variables:** They are also known as fields or non-static or dynamic variables. They are defined within a class outside of any method without the `static` keyword. You get a copy of each instance variable in each instance created from the class. If you create 234 instances, there will be 234 copies, one in each of the 234 objects.

3. **Static variables:** They are also called class variables. They are defined within a class outside of any method with the `static` keyword. Only one copy of each static variable exists in the entire class.

2. Lifetime of variables

What is the lifetime of each of the three kinds of variables we just studied above?

1. **Local variables:** alive only while the method is running.

2. **Instance variables (non-static variables):** alive as long as an instance (object) is alive. When does an instance die, i.e., goes away from memory? When there is no more reference is made to it.

3. **Class variables (static variables):** alive as long as the program is alive, i.e., until the `main` exits.