

## 111B and 112 :: Creating classes from Scratch

I'm sure you have used classes but now let's review creating them from scratch!

### Java and Custom Classes

There are a huge number of classes in the Java API, and even more out in various libraries up in GitHub for you to explore. But sometimes you want to make exactly what you need yourself, from scratch. Think about it – we are saying you can \*change\* Java so that it has new datatypes that you created !!! Power!!!

***So make a Java class that can store the following model of a PopSong (I know this one is NOT in the Java API ! )***

**STEP 1: DATA** – what kind of data do you need to describe a PopSong ? For each, think about what type of data structure is needed – a String? A double? A HashMap?

**STEP 2: BEHAVIOR** – What does a PopSong “do” ? Every Java class has a few methods that are pretty standard so start with :

- a. Constructor method(s) – named PopSong() ; allocates memory and fills in default values for all the fields
- b. toString( ) – tells the System.out.print() how to format a PopSong for display

- c. get methods – typically we have one of these for each field and they return the value of the field to the user of the class
- d. set methods – again, one of these for each data field. These each have a parameter so the value of that field can be changed by the user.
- e. What Else ?? What does a PopSong do ? Maybe climbsChart() ? playOnSpotify()?

**STEP 3: DRIVER CLASS** Now go open a new file and create a main() that uses a PopSong. Maybe you'd make a list of PopSong[] and call it a variable playlist ? or Have a PopSong[] for all the work of an artist and call it discography? But be sure to try out each of your methods so you know they work !

**REMEMBER:** Taylor and Lynn are here to help you do this! Do not waste time getting frustrated – just ask for help !