Java Classes and Objects

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Back on the first assignment

- I suggested using a StringBuilder for your solution
- What is a StringBuilder?

String Builder

- Well it’s just a Class. Specifically one that keeps track of an array of bytes for us and allows us to modify it as a representation of a string
- If you are bored take a look at the 1725 lines of code that nearly every developer takes for granted on a daily basis that gives the functionality of a String builder (https://github.com/AdoptOpenJDK/openjdk-jdk11/blob/master/src/java.base/share/classes/java/lang/AbstractStringBuilder.java)

Open up intellij

- In the main method of main.java add a line that says :
    - `StringBuilder mySb = new StringBuilder();`
    - This is just a constructor with no parameters like we have done
    - Now do `StringBuilder myNonEmptySb = new StringBuilder("I have meaning, I am not empty");`
    - This is just a constructor that takes in a parameter and initializes an attribute based off of it

System.out both of those

What do you notice?

Check out
https://github.com/openjdk-mirror/jdk7u-jdk/blob/master/src/share/classes/java/lang/StringBuilder.java and
ctrl+f for toString()

Note: I know this link is slightly different than the first. Abstract classes and regular classes will be explained in more detail in University. For now trust me that for all intents and purposes they share code and roughly the same. Think of it as a design and am implementation

Ok so it is

- Created using new
- Has empty constructors
- Has non empty constructors
- Has a toString()
- Probably has everything else we discussed

Go to

https://www.geeksforgeeks.org/stringbuilder-class-in-java-with-examples

Scroll to the “Methods in Java StringBuilder” section

Ignore 1 because it uses ASCII and we havent talked about it.

But click on 2 and 3. Read through the docs and try to gather what they do.

Both are Methods of the StringBuilder Class (The fun part after getters/setters/constructors etc)

- These methods simply access and modify the StringBuilder’s attributes
- Yes the logic is way more involved
- But at its core the functionality is the same

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And take your slowly increasing class you are making

- Change your toString to use a StringBuilder
- Make one additional method to print a string using a string builder.

Challenge: We don’t want to make 2+ StringBuilders… Fix your code to only ever make one.

Hint: Store the Builder