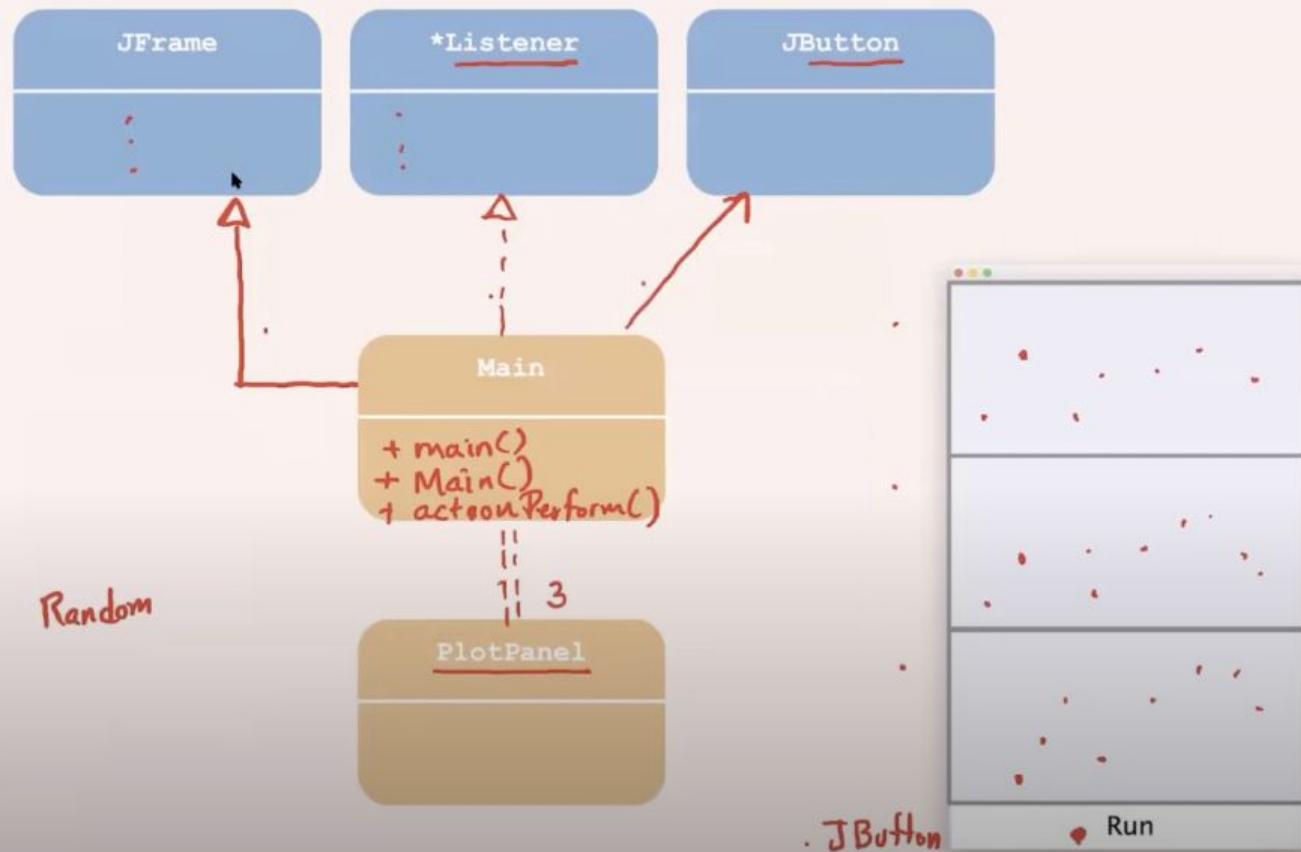


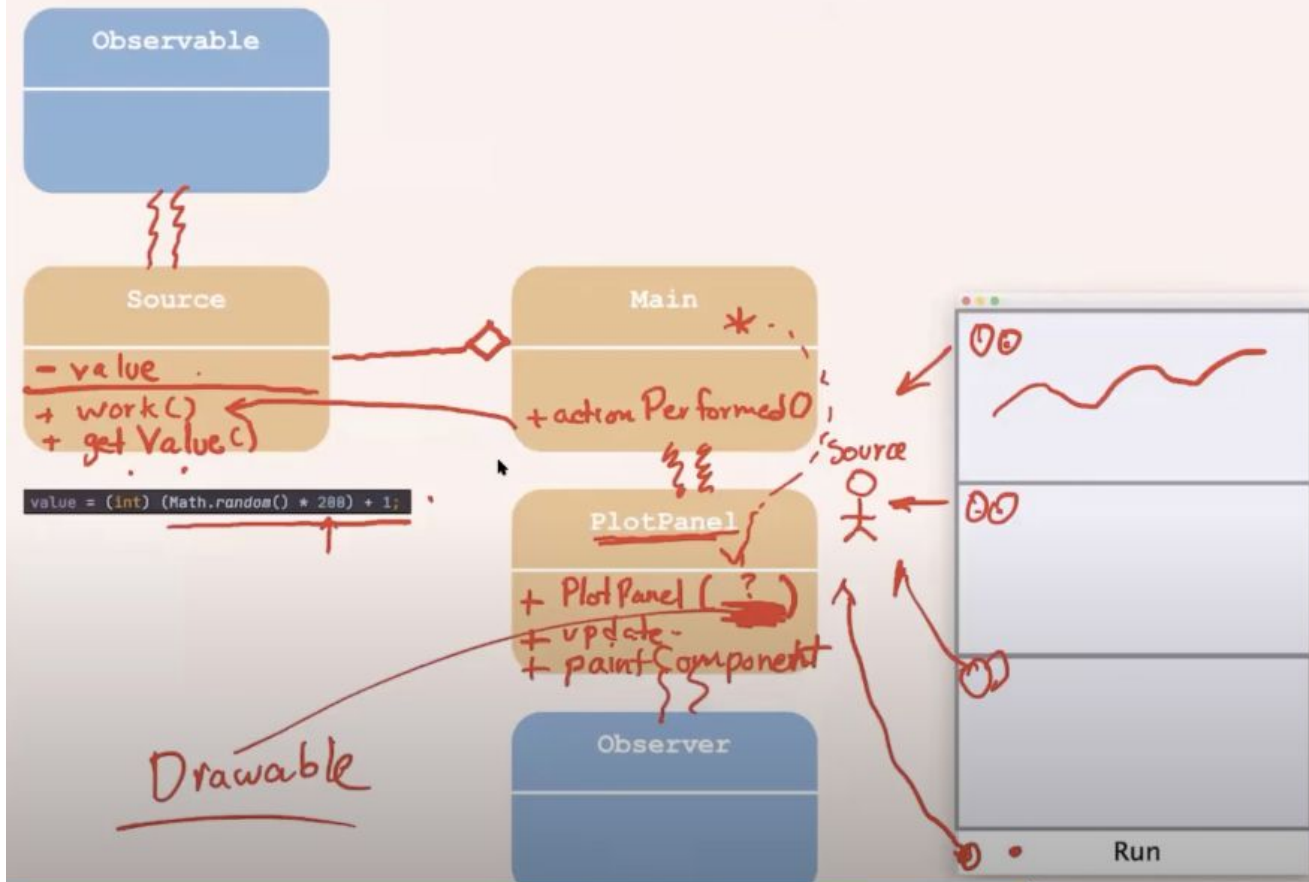
# Assignment 03 - UI

jgs



# Assignment 03 – Observer Pattern

jgs



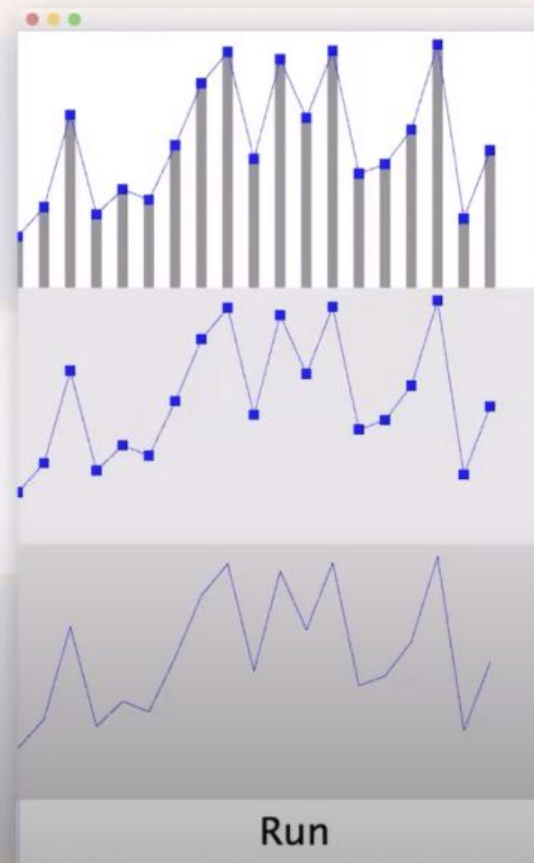
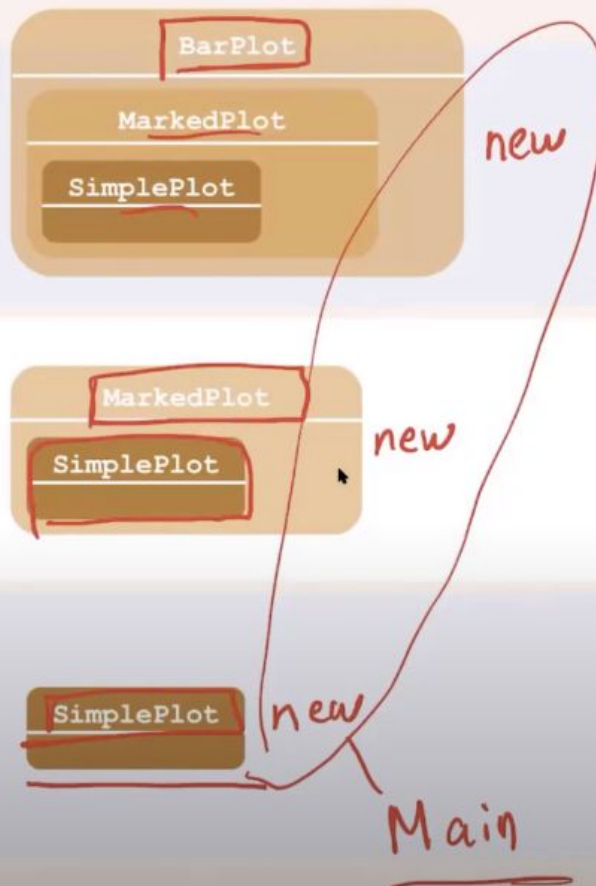
# Assignment 03 – Decorator Pattern

jgs



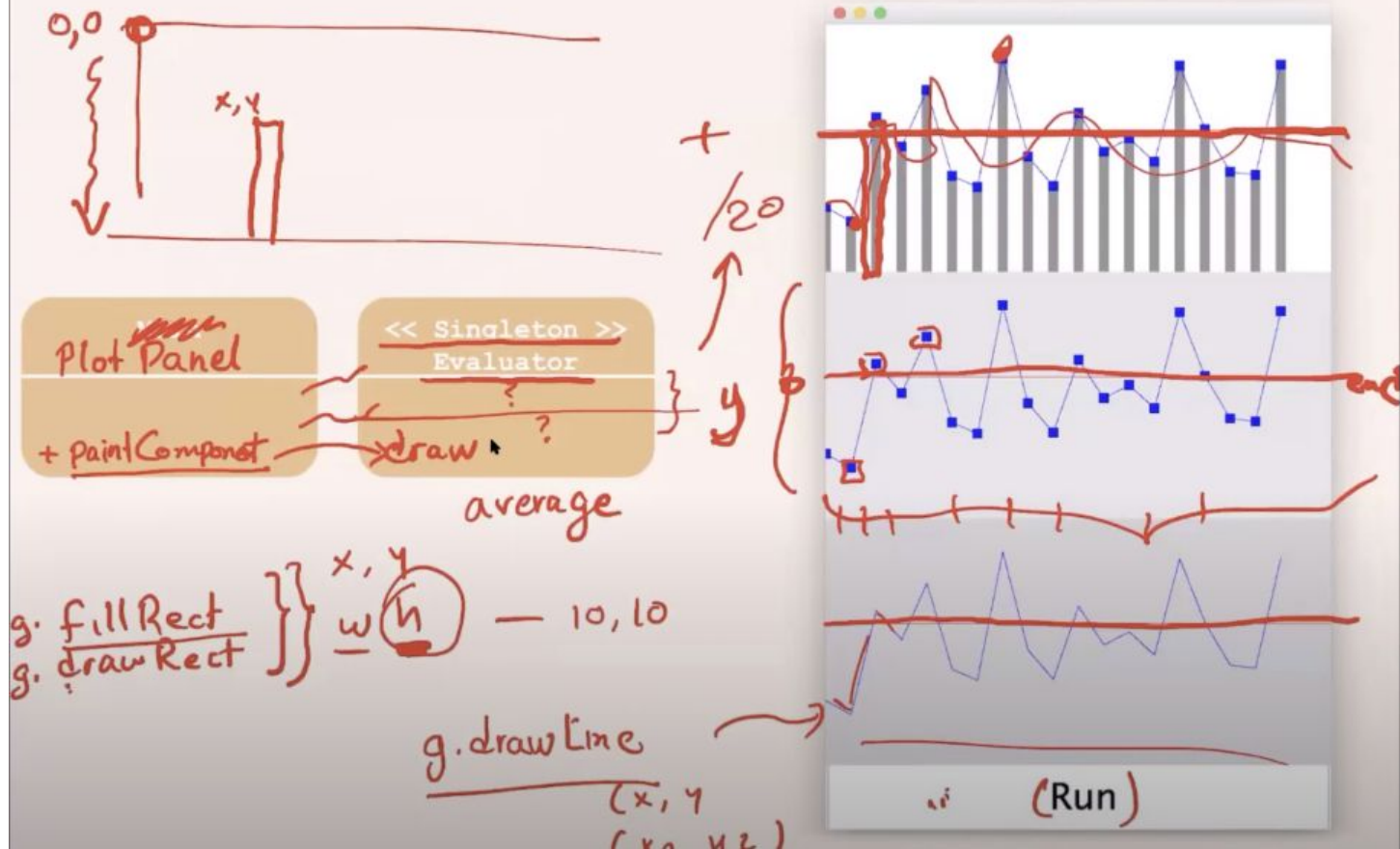
# Assignment 03 – Decorator Pattern

jgs



# Assignment 03 – Singleton Pattern

jgs



## Source Code in Java

- only \*.java files
- Use only java.swing. Nothing else for UI
- Do not use packages (no package instruction in your classes)

Swing  
JFrame  
JPanel  
JButton  
awt  
GridLayout  
BorderLayout  
??

## Class diagram

- Submit a PDF or Image file (a PNG file).
- Show your classes and all Java API classes used, including **JFrame**, **JPanel**, etc.
- Notice that **Timer** is **not** being used here