

**School of Electrical Engineering and Computer Science
The University of Newcastle
SENG1110/SENG6110 Object Oriented Programming**

Lab Session - week 10

1. Open the files "Clock.java." and "ClockTest.java". Compile and run the program. **Listen the first video.**
 - a. Create a derived class named AlarmClock. Add any additional functionality you will need for a specialized AlarmClock object.
 - b. Add statements to ClockTest to test your new AlarmClock object. **(you need to complete this exercise and show to your demonstrator using BlueJ)**
 - c. Add a constructor to your AlarmClock class that initializes an AlarmClock object with both the time and the alarm time.
 - d. Add statements to ClockTest to create a new AlarmClock object with the time 1:45:00, and the alarm set to 6:57:00.
 - e. **Listen the second video.** Add a toString() method to your AlarmClock class that returns a string representation of an alarm clock object.
 - f. Add statements to AlarmClock to print the string representation of all current objects to the console window.
 - g. Add an equals() method to your AlarmClock class that returns true if two AlarmClock objects are equal, false otherwise. Use the techniques discussed in Chapter 8/lecture10.
 - h. Add statements to ClockTest to compare two AlarmClock representations that are equal, as well as two AlarmClock objects that are not equal.

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- a. Create a UML class hierarchy diagram for a Clock and an AlarmClock object in the space below.

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