**Assignment 6**

**Multithreading**

In this assignment you will create an Android application that uses two background threads. The main activity waits for the threads to return a ‘magic’ number. A magic number is a four digit value that either (1) is a multiple of seven or (2) is a multiple of four and ‘2’ is its last digit.

The main steps in the application are:

1. The main activity creates and starts two threads. Give each thread a name when it is created. The main activity controls the UI presentation. While waiting, it shows a ‘rotating’ progress bar.
2. Each background thread does the following:
3. sleep for 1 second,
4. generate a random four-digit number,
5. write the number and the thread’s name to the log,
6. send a message containing the number to the main thread, then repeat the cycle.
7. When the main activity receives a message containing a number, it determines if the number is ‘magic’. If it is ‘magic’, it stops both background threads and displays the value of the magic number on the screen. (Don’t use thread.stop() to stop the threads.)

Your implementation must use a message passing Handler mechanism for the threads to communicate with the UI activity. Your threads must be synchronized.

When you have finished this assignment, copy the Eclipse Android Project to your desktop, zip the folder, and submit using Bb.