

CT3535 Assignment B1

Source code:

```
//Import ArrayList for infinilist
import java.util.ArrayList;

//Implements Runnable for Multi-threading
public class Iterator implements Runnable{
    //infinilist, a static ArrayList of type String, to be filled with 3
    strings
    //"This", "is", & "infinite" infinitely
    public static ArrayList<String> infinilist = new ArrayList<String>();

    //Creating variables for code
    private String name;
    private Thread t;

    //Iterator, which creates and calls the Thread instances
    Iterator(String ThreadName){
        name = ThreadName;
        t = new Thread(this, name);
        System.out.println(t + " Created");
        t.start();
    }

    //Run function, which checks the last entry in the
    //infinilist ArrayList, & adds the next string value into it
    //then prints out the current state of the infinilist ArrayList
    public synchronized void run() {
        //Posterity printout code to know if the program is working
        System.out.println(t + "Running");
        try {
            while(true) {
                //checks if 'This' was the last value, then adds
                'if' if true
                if(infinilist.get(infinilist.size()-1) ==
                "This") {
                    infinilist.add("is");
                    System.out.println(infinilist);
                }
                //checks if 'is' was the last value, then adds
                'infinite' if true
                else
                if(infinilist.get(infinilist.size()-1) == "is") {
                    infinilist.add("infinite");
                    System.out.println(infinilist);
                }
                //adds infinite otherwise
                else {
                    infinilist.add("This");
                    System.out.println(infinilist);
                }
            }
            //a catch statement for any exceptions that the code
            throws up
            //prints out that the thread interrupted, & what the
            problem is
        } catch (Exception e) {
            System.out.println(t + "Interrupted.");
        }
    }
}
```

