Client.java
```java
/**
 * @author joe
 */
public class Client {

    // hardcoded strings to test hash code function with
    public static String POTS = "POTS";
    public static String STOP = "STOP";
    public static String TOPS = "TOPS";

    // main client
    public static void main(String[] args) {
        String[] words = {POTS, STOP, TOPS};

        for(String str : words)
            System.out.println(str + " : " + cyclicShiftHashCode(str));

        // seperation between silent and verbose
        System.out.println("\n\n");

        for(String str : words) {
            System.out.println(str + " :");
            int t = verboseCyclicShiftHashCode(str);
            System.out.println("" + t + "\n");
        }

        verboseCyclicShiftHashCode("REALLYBIGWORD");

    }

    // non-verbose cyclic shift hash function
    public static int cyclicShiftHashCode(String str) {
        int h = 0;

        // iterate through each character, adding it to the hash code
        for(int i = 0; i < str.length(); i++) {
            h = (h << 5) | (h >> 27);
            h += (int)str.charAt(i);
        }

        return h;
    }

    // verbose cyclic shift hash function
    public static int verboseCyclicShiftHashCode(String str) {
        int h = 0;

        for(int i = 0; i < str.length(); i++) {
```

```java
            h = (h << 5) | (h >> 27);
            // print out which shift operation this is
            System.out.println("  Shift " + (i+1) + " : " + h);

            h += (int)str.charAt(i);
            // print out which addition operation this is
            System.out.println("  Add   " + (i+1) + " : " + h);
        }

        return h;

    }
}
```

output:
POTS : 2705107
STOP : 2808368
TOPS : 2836051

POTS :
 Shift 1 : 0
 Add   1 : 80
 Shift 2 : 2560
 Add   2 : 2639
 Shift 3 : 84448
 Add   3 : 84532
 Shift 4 : 2705024
 Add   4 : 2705107
2705107

STOP :
 Shift 1 : 0
 Add   1 : 83
 Shift 2 : 2656
 Add   2 : 2740
 Shift 3 : 87680
 Add   3 : 87759
 Shift 4 : 2808288
 Add   4 : 2808368
2808368

TOPS :
 Shift 1 : 0
 Add   1 : 84
 Shift 2 : 2688
 Add   2 : 2767
 Shift 3 : 88544
 Add   3 : 88624
 Shift 4 : 2835968
 Add   4 : 2836051
2836051

 Shift 1 : 0
 Add   1 : 82
 Shift 2 : 2624
 Add   2 : 2693
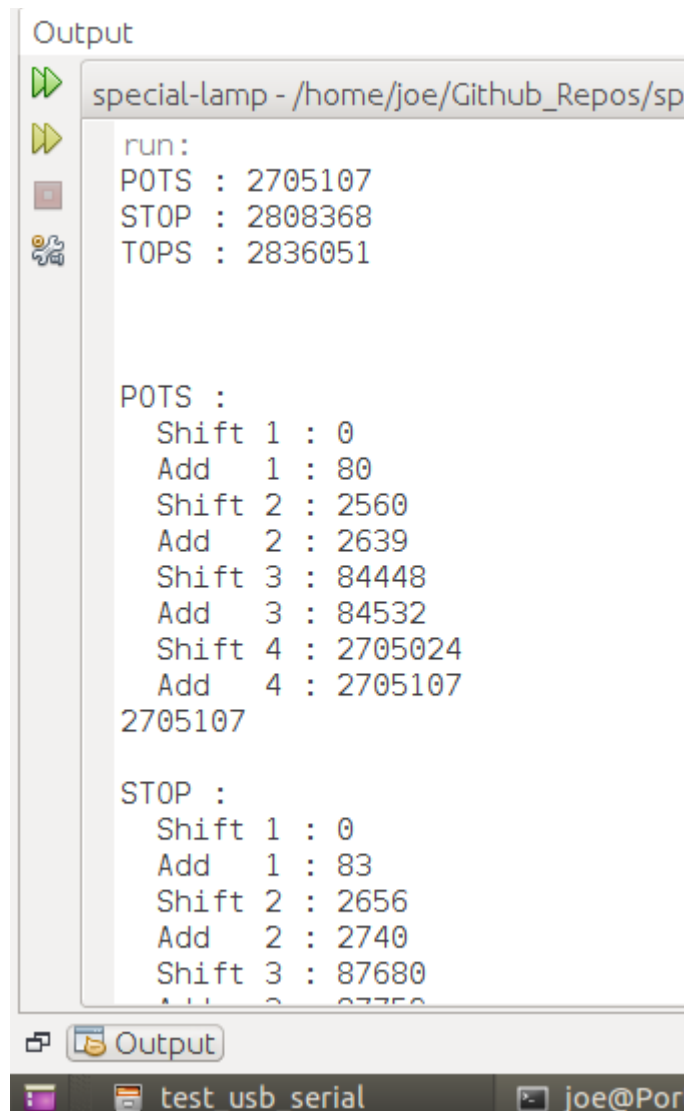 Shift 3 : 86176
 Add   3 : 86241
 Shift 4 : 2759712
 Add   4 : 2759788
 Shift 5 : 88313216

Add   5 : 88313292
Shift 6 : -1468941952
Add   6 : -1468941863
Shift 7 : -11
Add   7 : 55
Shift 8 : 1760
Add   8 : 1833
Shift 9 : 58656
Add   9 : 58727
Shift 10 : 1879264
Add   10 : 1879351
Shift 11 : 60139232
Add   11 : 60139311
Shift 12 : 1924457952
Add   12 : 1924458034
Shift 13 : 1453114958
Add   13 : 1453115026

screenshot of output