Count Example (incr's short version)

```
1  /* Copyright (C) 2006 M. Ben-Ari */
2
3  class Count_s extends Thread {
4    static volatile int n = 0;
5    static int N;
6
7    public void run() {
8      int temp;
9      for (int i = 0; i < N; i++) {
10       /* temp = n; n = temp + 1; */
11       n++;
12     }
13   }
14
```

```
15      public static void main(String[] args) {
16        if (args.length > 0) {
17          try { N = Integer.parseInt(args[0]); }
18          catch (NumberFormatException e) {
19            System.err.println("Argument" + " must be
                  an integer");
20            System.exit(1);
21          }
22        }
23
24        Count_s p = new Count_s();
25        Count_s q = new Count_s();
26        p.start();
27        q.start();
28        try { p.join(); q.join(); }
29        catch (InterruptedException e) { }
30        System.out.println(N + " + " + N + " = " + n);
31      }
32    }
```

Count Example (incr's long version)

```
1  /* Copyright (C) 2006 M. Ben-Ari */
2
3  class Count_l extends Thread {
4    static volatile int n = 0;
5    static int N;
6
7    public void run() {
8      int temp;
9      for (int i = 0; i < N; i++) {
10       temp = n; n = temp + 1;
11       /* n++; */
12     }
13   }
14
```

```
15      public static void main(String[] args) {
16        if (args.length > 0) {
17          try { N = Integer.parseInt(args[0]); }
18          catch (NumberFormatException e) {
19            System.err.println("Argument" + " must be
                  an integer");
20            System.exit(1);
21          }
22        }
23
24        Count_l p = new Count_l();
25        Count_l q = new Count_l();
26        p.start();
27        q.start();
28        try { p.join(); q.join(); }
29        catch (InterruptedException e) { }
30        System.out.println(N + " + " + N + " = " + n);
31      }
32    }
```

Results

```
10 + 10 = 20
10 + 10 = 20
10 + 10 = 20
10 + 10 = 20
10 + 10 = 20
```

```
100 + 100 = 200
100 + 100 = 200
100 + 100 = 200
```

```
1000 + 1000 = 2000
1000 + 1000 = 2000
1000 + 1000 = 2000
```

```
10000 + 10000 = 20000
10000 + 10000 = 19943
10000 + 10000 = 10000
10000 + 10000 = 17963
10000 + 10000 = 15870
```

```
100000 + 100000 = 200000
100000 + 100000 = 101867
100000 + 100000 = 100000
```

```
1000000 + 1000000 = 2000000
1000000 + 1000000 = 1782471
1000000 + 1000000 = 1545209
```

```
10000000 + 10000000 = 19981560
10000000 + 10000000 = 19645800
```