Worksheet #31:
Finding maximal index of goal in matrix

Name: _____   **Net ID: _____**

Below is a code fragment intended to find the maximal (largest) index of a goal value that occurs multiple times in the input matrix. What logical error(s) are there in the code?

```
1.    class AsyncFinishEurekaSearchMaxIndexOfGoal {
2.      HjEureka eurekaFactory() {
3.        comparator = (cur, newVal) -> { // cur is initially [-1, -1]
             (cur.x==newVal.x) ? (cur.y - newVal.y) : (cur.x - newVal.x) }
4.        return new MaximaEureka([-1, -1], comparator)
5.      }
6.      int[] doWork(matrix, goal) {
7.        val eu = eurekaFactory()
8.        finish (eu, () -> { // eureka registration
9.          forasync (0, matrix.length - 1, (r) ->
10.            procRow(matrix(r), r, goal));
11.        });
12.        return eu.get()
13.      }
14.      void procRow(array, r, goal) {
15.        for (int c = 0; c < array.length(); c++)
16.          check([r, c]) // terminate if comparator returns negative
17.          if goal.match(array(c)) offer([r, c]) // updates cur in eureka
18.      } }
```