

```

/** Stopwatch. This class is a data type for measuring
 * the running time (wall clock) of a program.
 *
 * For additional documentation, see
 * <a href="http://introcs.cs.princeton.edu/32class">Section 3.2</a> of
 * <i>Introduction to Programming in Java: An Interdisciplinary Approach</i>
 * by Robert Sedgewick and Kevin Wayne. */

```

```
package EsSeparable;
```

```

public class Stopwatch {

    private final long start;

    /** Create a stopwatch object. */
    public Stopwatch() {
        start = System.currentTimeMillis();
    }

    /** Return elapsed time (in seconds) since this object was created. */
    public double elapsedTime() {
        long now = System.currentTimeMillis();
        return (now - start) / 1000.0;
    }
}

```

```

package packSortAndSearch;
import java.util.Random;

public class ArrayCreator {

    static int MAX = 1000000;

    public static Integer[] createArray(int N, int range) {
        Random randomGenerator = new Random();

        Integer[] a = new Integer[N];
        for (int i = 0; i < N; i++) {
            a[i] = randomGenerator.nextInt(range);
        }
        return a;
    }

    /**
     * Returns an array of the specified size, with random positive values
     between 0 and MAX.
     * When passing only one param, the MAX value is used as a default.
     *
     * @param N the size of the array
     * @return the new array of size N
     */
    public static Integer[] createArray(int N) {
        return createArray(N, MAX);
    }
}

```

```

package packEsSeparable;
import packSortAndSearch.ArrayCreator;

public class PruebaEsSeparable {

    public static double timeTrial(int N) {
        Integer[] a = ArrayCreator.createArray(N);

        Stopwatch timer = new Stopwatch();
        Separable sepa = new Separable();
        sepa.esSeparable1(a);
        return timer.elapsedTime();
    }

    public static void main(String[] args) {
        for (int N = 250; true; N += N) {
            double time = timeTrial(N);
            System.out.printf("%7d %5.3f\n", N, time);
        }
    }
}

```

```

package EsSeparable;

public class Separable{

    public Separable() { } // Constructora

    public int esSeparable1(Integer[] tabla) {
        int izq, der;

        for (int i = 0; i < tabla.length; i++){
            izq = 0; for (int k = 0; k < i; k++) izq = izq + tabla[k];
            der = 0; for (int k = i; k < tabla.length; k++) der = der + tabla[k];

            if (izq == der) return i;
        }
        return 0;
    }

    public int esSeparable2(Integer[] tabla) {
        int izq, der;

        return 0;
    }
}

```