CS 374 Lab 6: Practice with Monitors

Student Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

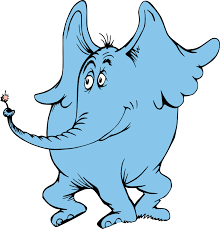
Today you will do a practice problem tracing a monitor.

Below is code for a Hoare monitor. Fill in the values of the variables m and n and the line numbers executed in order assuming that the functions are called in the following order: **hhw.B( ), hhw.A( ), hhw.A( ), hhw.C( ), hhw.B( ), hhw.C()**. Take care to show all numbered lines executed in the proper order; the first column is filled in for you. Check your answers against the key, get checked off, and you’re done!

**monitor** hhw { // “The Hoare-ton Hears a Who Monitor”

int m=2, n=2;

condition x, y, z;

 A( ) {

(1) m = m \* 2;

(2) if (m > n) x.wait;

(3) y.signal;

}

B( ) {

(4) if (n == m) y.wait;

(5) else { z.signal; }

(6) m = m - 3; // not part of else

}

C( ) {

(7) x.signal;

(8) n = n + 2;

(9) y.signal; z.wait;

(10) m = m / 2;

}

} // end monitor

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Line # =** | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **m =** | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **n =** | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |