A race condition is when the outcome of your program is dependent on the non-deterministic nature of interleaving. This is almost never desired. Synchronization mechanisms are generally in place to prevent race conditions. An example of a race condition can be seen from the output of the provided script.

In the script, we have a shared pointer to x, and two goroutines modify it concurrently. Therefore, the output in the main routine is dependent on the scheduler, and thus non-deterministic.

Expect: 12
Actual: 12
Expect: 12
Actual: 12
Expect: 12
Actual: 0
Expect: 12
Actual: 12
Expect: 12
Actual: 12
Expect: 12
Actual: 3
Expect: 12
Actual: 12
Expect: 12
Actual: 3
Expect: 12
Actual: 12
Expect: 12
Actual: 12
Expect: 12
Actual: 12