Apply the CEGAR approach in order to verify the correctness of the program listed below. Note that /* error */ indicates an error state, meaning that the program correctness amounts to the non-reachability of these statements.

```c
_Bool lock = 0;
_int old, new;

void lock (void){
  if(lock==1)
    /* error */;
  else
    lock = 1;
}

void unlock (void) {
  if(lock==0)
    /* error */;
  else
    lock = 0;
}

void main (void) {
  do {
    lock();
    old = new;
    if (*) {
      unlock();
      new ++;
    }
  } while (new != old);
  unlock();
  return;
}
```