

i++ is not atomic in assembly language

```
1  LOAD    [i], r0    ;load the value of 'i' into
2                      ;a register from memory
3  ADD     r0, 1       ;increment the value
4                      ;in the register
5  STORE   r0, [i]     ;write the updated
6                      ;value back to memory
```

Interrupts might occur in between. So, i++ needs to be protected with a mutex.