Question 1. [Points 3] Exercise 6.9

Question 2. [Points 3] Exercise 6.16


Question 5. [Points 6]

(a) Given the following solution for the critical section problem for two processes (the code shown is for processes Pi), show why it does not satisfy the mutual exclusion requirement. Here, lock is flag[i] and flag[j] a shared variable initialized to FALSE. (Hint: Indicate one scenario where the progress requirement is violated.)

```c
do {
    while (lock);
    lock = TRUE;

    Critical section

    lock = FALSE;

    Remainder section
}
```

(b) What happens if lock is initialized to TRUE in the above code?