Assignment 3

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Q 1. Consider Figure 1 for this question. Assume turn = 0 initially. If after leaving Critical Region, for Process 0, turn is set to 0 instead of 1, and for Process 1, turn is set to 1, instead of 0, then diagnose the following:

a) Any general issue(s) with the modified code. (4 points)
b) Violation of any of the four Inter-Process Communication conditions in the modified code. (4 points)

```
while (TRUE) {                          while (TRUE) {
    while (turn != 0)      /* loop */ ;    while (turn != 1)      /* loop */ ;
    critical_region();                      critical_region();
    turn = 1;                               turn = 0;
    noncritical_region();                   noncritical_region();
}                                       }
```

Figure 1. Strict Alternation

a) Any general issue(s) with the modified code.

Process 1 will forever do busy wait because firstly **Process 0** will go to its **Critical Region** and do its work on leaving it also set the turn to 0, so **Process 1** will never be able to go **Critical Region.**

b) Violation of any of the four Inter-Process Communication conditions in the modified code.

3. No process running outside its critical region may block any process.
4. No process should have to wait forever to enter its critical region.

The modified code **Violation the third, & four Inter-Process Communication** conditions by doing **busy waiting** as well as **forever blocking** a process to go its **Critical region**