## Problem 1

Using JK flip flops, design an up/down synchronous counter that counts from 3 to 7.

Problem 2
Using SR flip-flops, design a circuit for the following state diagram.


Problem 3
Using D flip-flops, design a circuit for the following state diagram. You may make the following state assignments: $\mathrm{S} 0=00, \mathrm{~S} 1=10, \mathrm{~S} 2=11, \mathrm{~S} 3=01$


