Computer Science 240
More on Sequential Circuits
Assignment for Lab 5

Flip-flops are **sequential circuits,** circuits whose output depends not only on the present value of its input signals but also on the value of past inputs. This is in contrast to combinational logic, whose output is a function of only the present input (the other circuits you have studied up to this point, such as basic gates, multiplexers, decoders, and ALU).

Because latches and flip-flops can store a state of 0 or 1, they are used as 1-bit memories, and can be used to create larger, n-bit memories such as registers and RAM. We will use those circuits in our implementation of an instruction set architecture.

Flip-flops are also used for solving problems which can be described by a Finite State Machine. Go to the following link:

http://www.cs.princeton.edu/courses/archive/spr06/cos116/FSM_Tutorial.pdf

which steps you through the process of solving a simple problem of this kind.

We will be doing a similar problem in lab this week. To prepare, read the example carefully, and write a short synopsis: