COSC 625 Programming Project #1: for Arduino or other microprocessor

Groups of size TWO at most.

Inform me of your group on 29 September 2010.

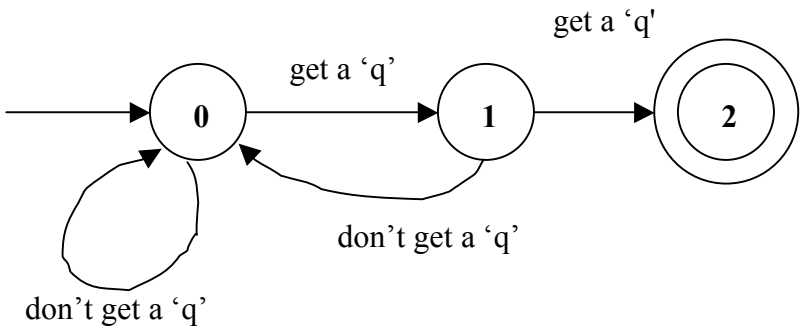
Distributed: 29 September 2010

Part 1 due: 6 October 2010
Part 2 due: 13 October 2010

Synopsis:
Write, and deploy to the microprocessor, a program that will display the Morse code equivalent of a text message. The text message can be any length, but will end with "qq". The Morse code will be displayed by turning the LED on and off. The dash will be held on for a period 3X the length the dot is held on. *The speed of display should be NO MORE than 2 characters per second.*

Deterministic Finite State Automaton

Note the following DFA which will be helpful to your coding.



Part 1
Implement this in straight C or Java without deploying to the microprocessor. Make appropriate adjustments to the output by displaying "." for dot and "-" for dash.

Part1 a: Display the entire English alphabet in order.

Part1 b: Hard code a message (maximum length 11 not including "qq"), then display that message.

Part 2
Convert your code to C so that it can be deployed to the microprocessor. Deploy to the microprocessor and demonstrate.

Part2a: The first program will display the English alphabet in lexical order.

Part2b: The second program will display a hardcoded message (maximum length 11).

Deliverables:
Part1:

- Entire group must be present and demonstrate.
- Each member of the group is expected to be able to explain code and modify code on-the-fly.
- Hardcopy of code. Use coding standards!

Part2:

- Same as for Part1.

Grade based on:

- Following specification: 75%
- Following coding standards: 25%

If a member of the group cannot perform the demo, explanation, and modification, then that member's grade is reduced by 30%.