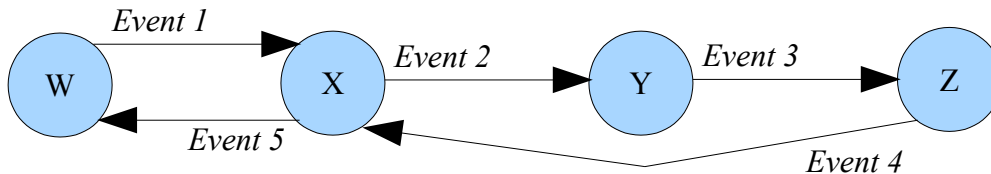


FRC1640 Programming Certification Pre-Test for the 2013 Season

Please talk to mentors Julie or Frank or to the other programming students for help with these questions. See the Julie's user page on the wiki.Team1640.com Website for links and more information.

1. State machines

For the following state machine where **W** is the **starting state**:



What state is the machine in after each of the following sequences of events, assuming that the machine is in State W at the beginning of each sequence?

- a) Event 1, Event 2, Event 4, Event 3, Event 5 _____
- b) Event 5, Event 1, Event 5, Event 1, Event 2, Event 4 _____
- c) Event 1, Event 2, Event 3, Event 4, Event 2, Event 3, Event 4 _____

2. FRC Robot Framework

Why do FRC teams need to use the given framework, whether in LabVIEW, C++, or Java, for programming their competition robot?

3. Motors and speed controllers

Why are speed controllers used?

4. Sensors

What do you need to know in order to use data from a sensor in a FRC robot program?

5. Radio (router) configuration

When configuring 1640's competition robot's radio (router), what IP address should you assign to it? (Assume that the robot's cRIO is assigned the IP address 10.16.40.2.)

6. Source code management

What is one reason why using a code repository is good idea?