1. What are two advantages of using a version control system such as SVN? **Multiple people can work on different files at the same time and commit and work together. You can backtrack and check commits for bug issues.**

2. Alice and Bob both update their working copies at the beginning of the day. They start editing the same plain-text file. Alice commits her changes in the afternoon. What happens when Bob tries to commit his changes at the end of the day? What should Bob do? **There will be a conflict which he will have to resolve.**

3. What is the SVN checkout URL for your group (your group number is on the Google spreadsheet)?

<https://github.com/mkim-hj/autonomous_basketball_catcher>

4. How long should a project charter be? **1 page**

5. Why is it important to have a *brief* charter? **It will succinctly summarize a project for a busy manager.**

6. Suppose you are writing the work breakdown to design an automobile, which has subsystems such as steering, horn, drivetrain, transmission, motor, etc. Give an example of a breakdown which would

(a) Violate the 100% rule.  **You could be describing the alarm system which would use speaker systems that are used in the audio and thus not 100% part of the system below.**

(b) Violate the Mutually Exclusive rule. **A team working on the transmission and the team working on drivetrain both write software for powertrain and gearshift.**

7. Make a short list of skills / experience / interests you think would be most relevant for your project. (i.e. Microcontroller coding, Circuit design, Project Management, etc.) Next to each, give an example project or class you took which demonstrates that skill.

1. **State Machine Development CS 150**
2. **Analog Circuit Design EE 105**
3. **Signal Processing EE 120**
4. **Microcontroller Coding CS 61C**
5. **Communications Protocol EE 122**

9. IndividualWriteup: In addition to the project charter, each team member should write an individual report which answers the following questions:

(a) What is the critical path on your WBS? How long will it take to complete?

• October 21: Project charter (this document)

• October 28: Platform finalized and parts (motor, chassis, camera) ordered. Start modeling state machine virtually.

• November 4: Have Kinect up and running. Tracking an orange sphere. Start hardware architecture.

• November 11: Have the hardware schematic and layout finished.  Start trajectory mapping.

• November 18: Print PCB and have final hardware planned out. Finish trajectory mapping algorithm.

• November 25: Finish building the basketball catching hardware. Have motors up and running.

• December 2: Integrate the hardware with kinect detection algorithms for basketball.

• December 9: Begin testing while tossing a basketball towards camera field of view.

• December 16: Demonstration video made, powerpoint prepared.

• December 17: Final presentation and demo.

• December 19: Project report and video turned in.

The duration of the project is expected to last approximately two months. The work from November 11th to December 2nd can be split amongst the software and hardware teams in parallel.

(b) What are the amounts time you have allotted to:

i. Design **(2 weeks)**

ii. Development (i.e. new stuff being written) **(5 weeks)**

iii. Debugging **(2-3 weeks)**

iv. Other tasks ( such as writing presentations or reports) **(1 week)**

(c) How have you designed your schedule adjust for unforeseen delays or early completions? **We have allocated beginning and end weeks for each milestone and targeting ourselves to finish in the beginning milestone.**

(d) When have you regularly scheduled to meet with your mentor? **W 2-5PM**