Graphs: Assignment #1

Your paper should have the following information on it.

- Your name
- Your student ID number
- Which section you are in: 02 MWF, or 04 TTh

Specifications for Grading

To earn a passing mark, your assignment must:

- be typed, and at least one page and no more than two pages in length. Diagrams may be hand drawn.
- address the tasks and questions below.
- explain your ideas in complete sentences. Use paragraphs to organize your thoughts.
- conform to reasonable standards for grammar, spelling, and usage of the English language with minimal errors. (You may consider seeking help on writing from the Writing Center in the Academic Learning Center. http://www.uni.edu/unialc/writing-center)
- be turned in by 3pm on Friday, January 22.

What to do

Task 1. Go to the web site `http://planarity.net/` and play the game for a while. Report what level you reached. Was this game any fun? Do you feel like you understand the idea of "planarity" any better?

Task 2. Draw an example of a connected graph that has degree sequence $\{4, 4, 4, 2, 2\}$. Label the vertices with their degrees to check your work.

Is it possible to draw a graph with degree sequence $\{4, 4, 3, 2, 2\}$. If so, draw it. If not, explain what the problem is.

Task 3. Draw an example of a graph with five vertices, call them A, B, C, D, E, which has a cycle of length 3 and a cycle of length 4.

Does your graph have a cycle of length 5? Is it possible to make such a graph without a cycle of length 5? Explain your reasoning.