1. Give a brief description of each of the three types of process models we discussed (universal, worldly, and atomic). What kind of information is captured in each type of model? How is the information used?
2. According to Charles Mann “… many software engineers believe that software quality is not improving. If anything, they say, it’s getting worse. It’s as if the cars Detroit produced in 2002 were less reliable than those built in 1982.”

What differences are there between software engineering and other engineering disciplines such as automotive engineering that could explain this observation? What characteristics of software make it difficult to produce?
3. In order to complete a Masters degree in Computer Science, students must pass 3 required courses (CIS 560, 570, 580) and a Masters Project (CIS 600). The 3 required courses may be taken in any order, or simultaneously, but all three must be completed before the Masters Project. Assume that once a course has been passed it cannot be repeated.

Consider each of the following modeling notations: (a) Entity/Relationship Diagram, (b) State Machine Diagram, (c) Data Flow Diagram, (d) Petri-net Diagram. For each notation, give a brief explanation of whether or not that notation is suitable for expressing the domain information given. Of the suitable techniques, which is the best choice? Why? Use your preferred notation to give a model of this domain information.
4. Give a brief description of each of the following phases of the software requirements process: (a) Elicitation, (b) Definition, and (c) Specification. What are some of the difficulties that may be encountered in each phase? What kinds of techniques can be used to overcome those difficulties?