1. (10 points) 5.17.

2. (10 points) 5.18.

3. (25 points, typeset). Consider the McKinley architecture. You may need to research beyond the two handouts from class.
   
   - What feature do you find the most distinctive and innovative?
   - What feature would you like to see dropped from the architecture?
   - What part of the architecture would you be most interested improving? What processes would you use to determine the effectiveness of improvements and to evaluate alternatives?
   - We have seen performance enhanced with branch prediction, caches, pipelining, branch target buffers, multiple and multi-ported register banks, and superscalar implementations. Rank these from most to least important. Discuss the ranking, in particular the top and the bottom of the ranking.

4. (10 points) Problem 5.3a–d. (Problem 5.2 will be part of the next assignment.) (e) Explain how the program is used to characterize memory systems. (f) How would you modify the program to characterize a virtual memory system (5.2i)—what loop indices would you change, and how long would you expect the program to run?