Can Computers Think?
Week 1 Homework

Due Thursday January 10

1. Read "Computing Machinery and Intelligence" by Alan Turing. You can download the article from the course website at http://antipasto.union.edu/~striegnk/courses/cancomputersthink.
   Is the proposed test a good test for intelligence? Could a machine pass the test without being intelligent? Could a machine not pass the test although it was intelligent? Prepare three questions related to this article that you would ask Alan Turing if you could and bring them to class on Thursday.

Due Tuesday January 15

2. "Design" an intelligent machine. Don't worry about whether this system can be built with today's technology. Describe what would be the function of this machine and how it would behave when performing this function. Explain (based on our discussions on Tuesday and today) why you think that this machine would be intelligent.

3. Amtrak has a telephone based automated dialog system which (among other things) lets you find out about train schedules. Call this system at 1-800-USA-RAIL and test the system for getting information about train schedules. E.g., how well does it understand spoken language input? What kinds of natural language constructions can it process? (E.g., in addition to dates, try relational specifications of time such as tomorrow, the day before yesterday, next Monday, ...) How well can it deal with common human dialog behaviors such as interruptions?
   a) Describe what the system can do and what it cannot do.
   b) Do you think this system is intelligent? Why or why not? How does it compare to Eliza?

4. Specify the algorithm that Amtrak's dialog system uses when helping users to schedule a train trip. When you first call up the system, it presents you with various options. One of them is to get information about train schedules. You only need to specify the algorithm for this option. Your algorithm specification should include things the system does or says, information provided by the user and how it is used. It should also include at least one instance of an error handling technique: a strategy the system uses to find out whether it understood the user correctly and what it does in case it didn't understand the user correctly.

   Your algorithm specification could, for example, start like this:
   1) Greet user.

2) Present options to the user and ask him/her to make a choice.
3) Analyze user's answer to question in step 2.
4) If the user says "schedules" then go to step 5.
5) …

CodeLab

Do the first batch of CodeLab exercises by Tuesday January 15th,

Reading

Zelle Chapters 1, 2.1-2.5, 3.1, 3.2, 3.6, 4.1, 4.2

See the web site for further material.