You may take this test with you afterwards, but you must turn in your bubble form answer sheet.

This test has the following sections:
   I. True/False ....................... 64 points; (32 questions, 2 points each)
   II. Multiple Choice................ 36 points; (6 questions, 6 points each)

This test is worth 5% of your final grade. You must put your answers on the bubble form. This test is open book and open notes. For the multiple choice problems, select the best answer for each one and select the appropriate letter on your answer sheet. Be careful - more than one answer may seem to be correct. Some questions are tricky.

**True/False: (2 points each)** On your bubble form fill out A for true and B for false.

T  F   1. When we think of a computer as being something that takes input, does some processing and provides output, then a tree qualifies as a computer.

T  F   2. A computer *processor* refers to the automated program that determines how many of each type of computer will be made in the computer manufacturing process.

T  F   3. A computer optical drive refers to the visual system for self-driving cards.

T  F   4. An *algorithm* is an estimate or approximation of the strategy to be used in solving a problem.

T  F   5. The point of the Peanut-Butter-and-Jelly sandwich activity in class was to show that there can be many different ways to do the same thing.

T  F   6. The 20Q program demonstrated in class was an intelligence test used to determine the intelligence category of the human user.

T  F   7. The paper-and-pencil computer (0/1 guessing) was developed in class by groups of ~4 students, and the "computer" managed to beat every group of students.

T  F   8. Adding two small binary numbers can be done inside a computer by using only AND and XOR

**The following 3 questions refer to Chapter 1 of the book "Blown to Bits"**

T  F   9. The chapter presents a set of ideas called Koans

T  F   10. The chapter begins with an example of the murder of a woman named Tanya Rider, where her phone records were used to convict her husband.

T  F   11. One example used is of a 13-year-old girl, Megan Meier who made a friend online named "Josh," who turned out to be a computer program.
The following 10 questions to Chapter 2 of the book "Blown to Bits." As we did in class, for each of these choose A (for True) if the statement/example/topic was covered in the chapter, B (for False) if the statement/example/topic was not covered in the chapter.

T F 12. Across the UK, there is one surveillance camera for every dozen people. The average Londoner is photographed hundreds of times a day.

T F 13. The loss of privacy is increasingly a serious concern to most citizens.

T F 14. Entities such as grocery stores by law are not allowed to share data with other non-competing industries.

T F 15. Jeremy Bentham's Panopticon is an example of where technology might be taking us.

T F 16. Arnold Karlsson attempted to live without any digital footprint, but in the end had to give up.

T F 17. Cell phones can be turned on remotely by law enforcement agencies without the knowledge of the owner of the phone.

T F 18. While government agencies are limited in what data they can collect, they can simply buy this data from industry instead.

T F 19. Medical information that has had identifying information (name, gender, address) removed can still be tracked to particular individuals.

T F 20. Reade Seligmann was convicted of rape at a Duke fraternity house because digital records were able to pinpoint where he was.

T F 21. RFID chips are currently implanted in young children as a protective measure in at-risk communities in Latin America where there is a high incidence of kidnapping.

The following 4 questions to Chapter 3 of the book "Blown to Bits." As we did in class, for each of these choose A (for True) if the statement/example/topic was covered in the chapter, B (for False) if the statement/example/topic was not covered in the chapter.

T F 22. The US government released a document supporting what happened when an Italian journalist was killed by US troops. This document had sections "blacked out", but since the redaction had been done using a pdf editor, the underlying text was able to still be revealed.

T F 23. The text includes an image of a pipe, along with a caption reading "This is a Pipe."

T F 24. Steganography is a technique of collecting vast amount of data automatically.

T F 25. In the long run if you want to create a backup of papers you have written, it is better to print them on paper than to keep an electronic copy.
The following 4 questions refer to Microsoft Excel.

T F 26. Cells are addressed by two numbers, one for the row and one for the column.
T F 27. When starting to create a formula for a cell, first type in the equals sign.
T F 28. When copying formulas, use the # to indicate that a row or column is absolute and not relative to the position of the cell.
T F 29. When creating a table of values, create a row where each cell contains a formula and then you can copy the entire row into the rest of the table, filling it in.

The following 3 questions refer to the short story "Light of Other Days".

T F 30. The salesman in the story was using the special glass to hide illegal activity.
T F 31. The story explained that "slow glass" worked by using a computer to store the images, playing them back at a later time.
T F 32. The woman in the salesman's window was not related to him.
Multiple Choice (6 points each)

33. The Turing Test is:
   a) A computer skills competency test named after Alan Turing
   b) A conversational test to determine if a computer is indistinguishable from a human
   c) An IQ test for computer programs
   d) A set of minimum performance standards a computer must meet if it is to perform intelligently
   e) None of the above

34. As seen in a video shown in class, Watson was:
   a) A computer detective that could solve problems
   b) A computer personality that could hold conversations
   c) A computer program used to control household energy use
   d) A computer program used to compete on a game show
   e) None of the above

35. The initials representing the steps of Polya's General Problem Solving Strategy are:
   a) IUPE
   b) UPIR
   c) SUPR
   d) UWIR
   e) None of the above

36. The main point of the hand-shakes exercise done in class was to
   a) Derive the correct formula: \( \frac{n(n-1)}{2} \)
   b) See how the computer would do it, compared to humans
   c) Practice communication skills
   d) Explore problem-solving strategies
   e) None of the above

37. If the following two binary numbers were converted to base 10 numbers and were added together, what would their sum be?

   \[
   \begin{array}{c}
   110011 \\
   + 100110 \\
   \hline
   \end{array}
   \]
   a) 51
   b) 82
   c) 32
   d) 23
   e) None of the above

38. How would you represent the base 10 value 45 in binary?
   a) 101111
   b) 100 101
   c) 111101
   d) 101 001
   e) None of the above