

CS 301 Test 3 Practice

Total points 19/33 ?

This is a practice test for the second exam. There are practice questions for material covered in Chapters 7-9 and Appendices of Sara Baase's "A Gift of Fire," as well as the Google Code of Conduct. They will be similar to those found on your third exam. Some of these questions are adapted from the various textbook presentations of your peers.

This practice test should be used as a supplement for your own studies, as some material for the test may not be covered in these questions. Reviewing the presentations provided by your peers for their textbook presentations are also a good source of studying for this exam, as well as listening to their presentation recordings.

Chapter 7: Evaluating and Controlling Technology

Section score 3/9

Section 7.1: Evaluating Information

✓ What is the "Wisdom of the Crowd"? *

1/1



☐ Utilization of a crowd of people to develop solutions to singular problems.

- ☐ An online database of ethical codes created by various computer science professionals.
- ☒ A collection of personal experiences favored over expert opinion. ✓
- ☐ A monthly team-based programming competition.

✗ What is NOT a question used to evaluate a model? *

0/1

- ☒ How well do modelers understand the underlying science or theory? ✗
- ☐ Is the model practical and efficient, and will it result in a cost effective product?
- ☐ What assumptions or simplifications are being made?
- ☐ How closely does the drawn model reflect reality?

Correct answer

- ☒ Is the model practical and efficient, and will it result in a cost effective product?

✗ What is NOT a model example evaluated in "A Gift of Fire" Section 7.1? *

0/1



☐ Plane crash model

☐ Plane crash model

☒ Climate model

×

☐ Car crash model

Correct answer

☒ Plane crash model

Section 7.2: The Digital Divide

× What is NOT an early divide in the access of technology described in "A Gift of Fire" Section 7.2? *

0/1

☐ Only 10% of Internet users were female in the 1990s.

☐ Black and Hispanic households are only half as likely to own a personal computer as White households in 1997.

☐ Only half of all college students have access to personal computers for educational purposes in the early 2000s.

☒ The rich and the poor receiving technology at different times and of different qualities.

×

Correct answer

☒ Only half of all college students have access to personal computers for educational purposes in the early 2000s.

× Which of these combinations is correct? *

0/1

☐ Haves, have-nots, and have-laters



- ☐ Haves, have-not-nows, have-nots
- ☐ Have-nots, have-laters, have-soons
- ☒ Haves, have-nots, have-soons

✗

Correct answer

- ☒ Haves, have-nots, and have-laters

Section 7.3: Neo-Luddite Views of Computers, Technology, and Quality of Life



✓ What do Neo-Luddites use as the basis of their moral evaluation?^{1/1}

✗

- ☐ The welfare of animals
- ☐ The welfare of nature and the environment
- ☒ The welfare of humanity as a whole
- ☐ The development of safe and ethical technology

✓

✗ Identify all of the criticisms that Neo-Luddites have of computers: *

0/1



Computers cause social inequity



- ☒ Computers cause social inequity. ✓
- ☐ Computers drain resources that could be allocated to more important fields.
- ☒ Computers manufacture needs that were not present before the creation of the computer. ✓
- ☐ Using computers stunts the intellectual and social development of children.
- ☒ Computers benefits big business and big government the most. ✓
- ☐ Computers have become too integrated into society.
- ☒ Computers separate humans from nature and destroy the environment. ✓
- ☒ Computers cause massive unemployment and de-skilling of jobs. ✓
- ☐ Computers are too difficult to understand and require too much education.
- ☒ Computers cause social disintegration; they are dehumanizing. ✓
- ☒ Computers do little or nothing to solve real human problems. ✓
- ☐ Computers make other valuable technologies obsolete.

Correct answer

- ☒ Computers cause social inequity.
- ☒ Computers manufacture needs that were not present before the creation of the computer.
- ☒ Using computers stunts the intellectual and social development of children.
- ☒ Computers benefits big business and big government the most.
- ☒ Computers separate humans from nature and destroy the environment.
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- ☒ Computers do little or nothing to solve real human problems.



Section 7.4: Making Decisions About Technology

✗ What is the fear of "rich only access?" *

0/1

- ☐ Only the rich will be able to afford a new technology.
- ☒ The rich paid off the companies to never sell their product to the poor ✗
- ☐ Only the rich will be allowed to use a new technology.
- ☐ Only the rich will be allowed to buy a new technology.

Correct answer

- ☒ Only the rich will be able to afford a new technology.

✓ What is the technological singularity? *

1/1

- ☐ Single companies having monopolies over singular types of technology.
- ☒ A point in time at which Artificial Intelligence becomes too difficult to control. ✓
- ☐ When all pieces of technology become digital and are connected to the Internet.

Chapter 8: Errors, Failures, and Risks

Section score 7/10

Section 8.1: Failures and Errors in Computer Systems

✗ What does NCIC stand for? *

0/1

- ☐ National Crime Impeding Society
- ☐ Northern Collection Institute Society
- ☒ Northern Crime Information Center
- ☐ National Crime Information Center

✗

Correct answer

- ☒ National Crime Information Center

✓ What is NOT a factor that contributes to errors in databases? *

1/1

- ☐ Special cases not included in automated processing
- ☐ Failure to update information.
- ☒ NCIC limits access to databases made before 2006.
- ☐ Large populations of data

✓

✓ Which act improved voting systems for Americans? *

1/1

- ☐ Electronic Voting Systems Act of 2014



☒ Help America Vote Act of 2002



☐ Make America Vote Act of 2002

☐ NCIC Act of 2003

Section 8.2: Case Study: The Therac-25



✗ What were the two major bugs of the Therac-25? *

0/1

☒ Value overflow when running checks



☐ Segmentation fault

☐ Incorrect input correction

☐ Buffer overflow

Correct answer

☒ Value overflow when running checks

☒ Incorrect input correction

✓ What is NOT a reason that errors failed to be reported about the Therac-25? *

1/1



☐ Overconfidence in the performance capabilities of the Therac-25

- ☐ Overconfidence in the performance capabilities of the Therac-25.
- ☐ Errors given on the machine were ambiguous.
- ☒ The machine was shipped without a manual. ✓
- ☐ Doctors were unsure if the machine was causing the radiation overdoses.

✓ What is an important difference between the Therac-25 and its predecessors Therac-6 and Therac-20? * 1/1

- ☒ The Therac-25 was fully computer controlled. ✓
- ☐ The previous versions contained absolutely no bugs.
- ☐ The Therac-25 had more processors than the previous versions, as indicated by its version number.
- ☐ The Therac-25 had more applications than providing doses of radiation.

Section 8.3: Increasing Reliability and Safety

✓ Which two spacecrafts were subject to investigation over the safety and reliability of its computer systems? * 1/1

- ☐ Apollo 13 and Sputnik 1
- ☐ Apollo 13 and Challenger
- ☒ Colombia & Challenger ✓
- ☐ Colombia and ISS

✓ What are the elements of a Successful System? * 1/1



- ☒ To give feedback to the user. ✓

☐ To have an engaging interface.

☒ Awareness of workload.

✓

☒ To behave as expected.

✓

Section 8.4: Dependence, Risk, and Progress

✗ Which of the following is NOT an important point made about risk and progress? *

0/1

- ☐ Many of the issues related to reliability and safety for computers systems have arisen before with other technologies
- ☐ There is a "learning curve" for new technologies. By studying failures, we can reduce their occurrence.
- ☒ Perfection is not an option. The complexity of computer systems makes errors, oversights, and failures likely. ✗
- ☐ Much is known about how to design, develop, and use complex systems well and safely. Ethical professionals learn and follow these methods
- ☐ Computers must be continually updated when new problems are discovered.
- ☐ Comparing the risks of using computer technologies with the risks of using other methods, and weighing the risks against the benefits, give us important perspective.

Correct answer

- ☒ Computers must be continually updated when new problems are discovered.

✓ Which of the following is a way in which people have become dependent on technology? *

1/1



☐ Over reliance on navigation systems for drivers

- ☐ Over reliance on navigation systems for drivers.
- ☐ Medical professionals and facilities cannot operate without medical information systems.
- ☐ Automatic payment of bills.
- ☐ Jets cannot operate without the assistance of computers.
- ☒ All of the above. ✓

Chapter 9

Section score 5/5

✓ Which of the following is NOT part of professional responsibility? ^{1/1}
*

- ☐ Understanding what success means
- ☐ Planning out projects and testing methods well
- ☐ Being open and honest about capabilities and limitations
- ☒ Trusting that existing software is correct and safe ✓
- ☐ Including users in design and testing phases

✓ Professional ethics involves relationships with responsibilities to which of the following? ^{1/1}
*

☐ Customers

☐ Customers☐ Coworkers☐ Employees☐ Employers☒ All of the above

✓

✓ Which of the following is NOT involved in the brainstorming phase? *

1/1

☐ List stackholders☐ List out risks, issues, and problems with consequences☐ List out benefits☒ Consider ethical merits

✓

☐ List out possible actions

✓ Which of the following is part of the analysis phase? *

1/1

☐ Identify your responsibilities☐ Identify the rights of the stakeholders☐ Consider ethical merits☐ List stakeholders☒ Choices A, B, and C

✓

✓ Which of the following situations requires use of brainstorming and analyzing the situation? *

1/1

☐ Creating a safety critical program for a medical device

- ☐ Creating a safety critical program for a medical device
- ☐ Publishing software vulnerabilities of a government agencies systems
- ☐ Cutting the testing time of a game application in order to release the game in time for the holidays
- ☒ All of the above



Appendices & Other Codes of Conduct

Software Engineer Code of Ethics and Professional Practice

Section score 4/9

✓ Which of the following is the correct list of principles for the Software Engineering Code of Ethics and Professional Practice? 1/1

*

- ☒ Public, Client and Employer, Product, Judgement, Management, Profession, Colleagues, and Self
- ☐ Public, Client and Employer, Investors, Friends, International
- ☐ Public, Client and Employer, Product, Judgement, Management, Profession, Colleagues, and Competitors



✗ Check the correct principles. *

0/1



☐ Software Engineers will act in public's interests

- ☒ Software Engineer will act in best interest of client and employer consistent with public interest ✓
- ☐ Software Engineer will keep confidential company information even when users can be in extreme danger
- ☒ Software Engineer will maintain integrity and independence in professional judgement ✓
- ☒ Software Engineer will be fair and supportive of colleagues ✓
- ☐ Software Engineer will do what ever it takes to make targeted deadlines, even when unrealistic to do so
- ☐ Software Engineer will remain silent when company's action threatens public interests
- ☒ Software Engineer will promote ethical management of software development and maintenance ✓
- ☒ Software Engineer will constantly learn about profession and promote ethical approach to practices ✓
- ☐ Software Engineer is in constant competition with coworkers and colleagues

Correct answer

- ☒ Software Engineers will act in public's interests
- ☒ Software Engineer will act in best interest of client and employer consistent with public interest
- ☒ Software Engineer will maintain integrity and independence in professional judgement
- ☒ Software Engineer will be fair and supportive of colleagues
- ☒ Software Engineer will promote ethical management of software development and maintenance
- ☒ Software Engineer will constantly learn about profession and promote ethical approach to practices



Google Code of Conduct

Link to code: <https://abc.xyz/investor/other/google-code-of-conduct.html>

✗ What are the six different subsections of the Google Code of Conduct? (technically there are seven, but one is just a conclusion) *

0/1



- | | |
|---|---|
| <input checked="" type="checkbox"/> Serve our users | ✓ |
| <input type="checkbox"/> Make money | |
| <input checked="" type="checkbox"/> Respect each other | ✓ |
| <input checked="" type="checkbox"/> Avoid conflicts of interest | ✓ |
| <input type="checkbox"/> Improve the Internet | |
| <input type="checkbox"/> Eliminate false information | |
| <input checked="" type="checkbox"/> Preserve confidentiality | ✓ |
| <input checked="" type="checkbox"/> Protect Google's assets | ✓ |
| <input type="checkbox"/> Improve our search engine | |
| <input checked="" type="checkbox"/> Ensure Financial Integrity and Responsibility | ✓ |
| <input type="checkbox"/> Obey the law | |

Correct answer

- ☒ Serve our users
- ☒ Respect each other
- ☒ Avoid conflicts of interest
- ☒ Preserve confidentiality
- ☒ Protect Google's assets
- ☒ Ensure Financial Integrity and Responsibility
- ☒ Obey the law

✗ Which of the following is NOT question that Google thinks you should ask yourself when faced with a conflict of interest? * 0/1



Would this activity create an incentive for me, or be perceived by others to

- ☐ Would this activity create an incentive for me, or be perceived by others to create an incentive for me, to benefit myself, my friends or my family, or an associated business at the expense of Google?
- ☐ Would this activity embarrass myself, my family, my coworkers, or other people associated with me?
- ☐ Would this activity harm my reputation, negatively impact my ability to do my job at Google, or potentially harm Google?
- ☒ Would this activity embarrass Google or me if it showed up on the front page of a newspaper or a blog? ✗

Correct answer

- ☒ Would this activity embarrass myself, my family, my coworkers, or other people associated with me?

✓ What is the most important rule that Google emphasizes? * 1/1

- ☐ Obey the law.
- ☒ Don't be evil. ✓
- ☐ Don't spread false information.
- ☐ Do unto others as you would them do unto you.

✓ Which of the following are actions that Google employees must take in order to preserve confidentiality? * 1/1

☐ All of the below

 All of the below ✓

- ☐ Properly secure, label and (when appropriate) dispose of confidential Google material;
- ☐ Safeguard confidential information that Google receives from others under non-disclosure agreements; and
- ☐ Take steps to keep our trade secrets and other confidential intellectual property secret.

ACM Code of Ethics and Professional Conduct

Link to code: <https://www.acm.org/about-acm/acm-code-of-ethics-and-professional-conduct>

✗ Which of the following is a method by which ACM pushes to avoid harm? * 0/1

- ☐ Report signs of system damage
- ☐ Avoid involving others in your work, unless they are assigned to do work with you.
- ☐ Follow standards of system design and testing.
- ☒ All of the above ✗
- ☐ Both the first and second option
- ☐ Both the first and third option

Correct answer

- ☒ Both the first and third option

✓ A personal responsibility of any professional is to upkeep a certain level of competence in their profession. * 1/1



 True

☒ True



☐ False

IEEE Code of Ethics



Link to code: <http://www.ieee.org/about/corporate/governance/p7-8.html>

✗ Which of the following is NOT a rule described in the IEEE Code of Ethics? * 0/1

- ☒ To reject bribery in all its forms; ✗
- ☐ To assist colleagues and co-workers in their professional development and to support them in following this code of ethics.
- ☐ To avoid injuring others, their property, reputation, or employment by false or malicious action;
- ☐ To act in the best interest of your company, and take action to avoid loss in capital, employment, assets, and resources of your company in any situation possible;

Correct answer

- ☒ To act in the best interest of your company, and take action to avoid loss in capital, employment, assets, and resources of your company in any situation possible;

Feedback

Section score 0/0



Please give us feedback on how helpful you found this practice exam. Was it too easy? Too hard? How did it compare to the first and second practice exams? *

Hard

Please rate how helpful this exam was: *

- ☐ Very helpful
- ☒ Somewhat helpful
- ☐ Neutral
- ☐ Somewhat unhelpful
- ☐ Very unhelpful

Do you think that these practice exams should be added to the course again in the future as an aid to students? *

- ☒ Yes
- ☐ No
- ☐ Maybe

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