COMSATS UNIVERSITY ISLAMABAD
Abbottabad Campus

Department of Computer Science

TERMINAL EXAMINATION SPRING 2023

Class: BSE-8A/8B
Subject: Professional Practices for IT
Total Time Allowed: 3 hours
Name: _____

Date: 21/07/2023
Instructor: Muhammad Yasir
Max Marks: 100
Registration #_____

Sr.#	Unit#	Course Learning Outcomes	Blooms Taxonomy Learning Level	SO
CLO-1	1	Examine the different theories of ethical decision making	Understanding	7-9
CLO-2	2-3	Discuss intellectual property rights for open source software.	Understanding	7-9
CLO-3	4-5	Investigate the impact of technological solutions to privacy issues in the changing world.	Analyzing	2, 7-9
CLO-4	1-9	Identify ethical issues by examining various case studies from ICT.	Analyzing	2, 7-9

Question 1: Briefly answer the following short questions. (CLO 1) [Marks 10]

1. State the morality of breaking a law in the perspective of rule utilitarian theory.
2. Recall act utilitarian theory. Write arguments in favor as well against this theory.

Question 2: Briefly answer the following short questions. (CLO 2) [Marks 15]

1. What paradoxes arise when we attempt to extend a natural right to property into the realm of intellectual property?
2. Suppose company A wants to develop a program that duplicates the functionality of a program made by company B. Describe how company A may do this without violating the copyrights held by company B.
3. Why copying software is bad? Give your answer in the perspective of consequentialist argument.

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Question 3: Briefly answer the following short questions. (CLO 3) [Marks 25]

1. Investigate the privacy concerns which have been raised with the increasing use of RFID tags?
2. Critically analyze the objections which were raised to Facebook's introduction of the Tag Suggestions feature?
3. If you voluntarily have your body scanned at a department store, who should own that information, you or the store? Should the store have the right to sell your body measurements to other businesses? Explain your reasoning.
4. How could "cookies" created by a Web server affect a computer user's privacy?
5. Distinguish op-in Policy and Op-out policy. Which policy is consider as a barrier for new business and why? Which policy violates the privacy and how?

Question 4: Briefly answer the following short questions. (CLO 4) [Marks 20]

1. Investigate the reasons due to which the US Department of Justice give for no longer requiring the FBI to ensure the accuracy of information kept in the NCIC databases?
2. Analyze the court's ruling in Mortenson v. Timberline Software case.
3. Why have courts been reluctant to view software as a product subject to the theory of strict liability?
4. Identify four clauses in the Software Engineering Code of Ethics and Professional Practice which are related to public interest.

Question 5: Solve the following case study. (CLO 3) [Marks 10]

Jim and Peggy Sullivan are the proud parents of a baby girl. As soon as Peggy became pregnant, they had begun exploring options for child care because both of them have full-time and highly satisfying careers in the computer field. They visited numerous day care facilities, but the ones they liked the best had no openings. For this reason they decided to hire a personal nanny, even though it was more expensive. After their daughter was born, Peggy spent three months at home on maternity leave. During this time she interviewed a half dozen nannies and hired one after carefully checking her references and giving Jim the opportunity to interview her as well. Just before the end of Peggy's maternity leave, she has coffee with a few of her friends who are all mothers of young children. The friends tell Peggy horror stories about abusive nannies, and they all recommend a software program called LiveSecurityWatch. Jim and Peggy purchase LiveSecurityWatch and install it on a laptop computer placed in the family room. With the system in place, Jim and Peggy can use their workplace computers to see and hear how the nanny interacts with their baby. The nanny has no idea that the Sullivans' computer is

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being used as a surveillance system. Is it wrong for Jim and Peggy Sullivan to secretly monitor the behavior of their baby's nanny? Write your answer in the perspective of social contract theory.

Question 6: Solve the following case study. (CLO 4) [Marks 20]

Case study 1

On October 24, 2010, Eric Butler released an extension to the Firefox browser called Fire sheep. Fire sheep makes it easy for a Firefox user to side jack open Web sessions. The user starts the Firefox browser, connects to an open Wi-Fi network, and clicks on a button called "Start Capturing." When someone using the network visits an insecure Web site that Fire sheep knows about, the user's name and photo are displayed in a sidebar, along with the name of the Web site he is connected to, such as Amazon, Facebook, or Twitter. By double-clicking on the photo, the attacker becomes logged in as that user on that Web site and is able to do the same things that the legitimate user is able to do, such as post status messages and purchase products. Butler released Fire sheep as free, open-source software for Mac OS X and Windows. He wrote: "Websites have a responsibility to protect the people who depend on their services. They've been ignoring this responsibility for too long, and it's time for everyone to demand a more secure web. My hope is that Fire sheep will help the users win". The Fire sheep extension was downloaded more than 500,000 times in its first week of availability, and it attracted a great deal of media attention. The typical story warned social network users about the dangers of using unencrypted wireless public networks and criticized the social network companies for not providing more security. Responding to criticism for providing a tool that makes it easy for ordinary computer users to perform side jacking, Butler wrote: "The attack that Fire sheep demonstrates is easy to do using tools that have been available for years. Criminals already knew this, and I reject the notion that something like Fire sheep turns otherwise innocent people evil". Three months after Butler released Fire sheep, Facebook made the following announcement: Starting today we'll provide you with the ability to experience Facebook entirely over HTTPS. You should consider enabling this option if you frequently use Facebook from public Internet access points found at coffee shops, airports, libraries or schools. The option will exist as part of our advanced security features, which you can find in the "Account Security" section of the Account Settings page

The release of Fire sheep is right or wrong? Discuss in the perspective of rule utilitarian theory

Case study 2

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Robert Tappan Morris Jr. began learning about the UNIX operating system when he was still in junior high school. His father was a computer security researcher at Bell Labs, and young Morris was given an account on a Bell Labs computer that he could access from a teletype at home. It didn't take him long to discover security holes in UNIX. Morris entered the graduate program in computer science at Cornell University in the fall of 1988. He became intrigued with the idea of creating a computer worm that would exploit bugs he had found in three UNIX applications: ftp, sendmail, and fingerd. On November 2, 1988, Morris learned that a fix for the ftp bug had been posted to the Internet, meaning his worm program could no longer take advantage of that security hole. However, nobody had posted fixes to the other two bugs Morris knew about. After making some last-minute changes to the worm program, he logged in to a computer at the MIT Artificial Intelligence Lab and launched the worm at about 7:30 p.m. The worm quickly spread to thousands of computers at military installations, medical research facilities, and universities. Unfortunately, due to several bugs in the worm's programming, computers became infected with hundreds of copies of the worm, causing them to crash every few minutes or become practically unresponsive to the programs of legitimate users. After some sleuthing by reporter John Markoff, the New York Times named Robert Tappan Morris Jr. as the author of the worm. Morris was suspended from Cornell University. A year later, he was the first person to receive a felony conviction under the US Computer Fraud and Abuse Act. He was sentenced to three years' probation and 400 hours of community service, and was fined $10,000. His legal fees and fines exceeded $150,000.

Was Robert Morris Jr. wrong to unleash the Internet worm? Write your answer in the perspective of act utilitarian theory.

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