Case Scenario No. 1 Copyright Laws

SDX Alliance is a large company that sells computers, computer components, and software. Ralph is hired as an entry-level software engineer at SDX Alliance. His first project was to assist in writing the code for SDX Alliance's new hard disc controller. He had previously worked on a similar system interning at a start-up and had written a code which greatly enhanced the performance of their product. Ralph quietly re-uses this same code in the SDX Alliance product and does not think to tell anyone that he has used the code from his last job. His manager is thrilled with the speed improvements this code brings to the product.

Before the product is released, it has to undergo a four-month-long quality assurance process review. During the review of the product, it was found the code which Ralph developed had been copyrighted by the startup he had previously worked for. Even though Ralph had developed the code, his previous company still owned the intellectual property rights to it.

When his manager informed Ralph of the problem, Ralph admits he did not realize he had made a mistake because he was not familiar with copyright laws. Ralph then goes on to explain that the start-up he used to work for is now out of business and is unsure if SDX Alliance would be able to get in contact with the owner of the copyright. If SDX Alliance can't use Ralph's code, then it will have to rewrite the entire code of the product, delaying its release by many months.

Answer the following questions based on the principles of ACM, IEEE Professional Code of Ethics. Mention the clause number(s) in your answers.

1. What was Ralph's mistake? What clause(s) did he violate?

2. Which company was the owner of the code?

3. If the company is out of business, does it still have copyright for the code?

4. Should the company use the code or rewrite the entire code of the product? Write the consequences for both the decisions.

Case Scenario No. 2: Software Errors

Rachel works as a Quality Assurance Engineer at a large electronics company. She is responsible for the final testing of her company's servers and is part of a team which decides when new products will be shipped to distributors for sale.

Rachel's company has a contract with another company which makes the chips which are incorporated into the servers Rachel's company makes. The business model for this product is to release a new generation server approximately every six months, meaning Rachel has a limited timeframe to conduct her Quality Control tests.

Because there is such a short amount of time between the release of each next new product, the Quality and Assurance department cannot perform every possible test on the servers to ensure they are defect free. Rachel will not ship a product if there is any possibility that the server could malfunction and cause physical harm to the customer. However, she will ship a product that has a higher likelihood of failure resulting in data loss for the customer, because she knows that if she doesn't, her company's competitor will.

Answer the following questions based on the principles of ACM, IEEE Professional Code of Ethics. Mention the clause number(s) in your answers.

1. Is this an ethical way to conduct business?

2. What clause does she violate by shipping a product?

Scenario 3:

Sam Shaw calls the Department of Computer Science at East Dakota State University seeking advice on how to improve the security of his business's local area network. A secretary in the department routes Mr. Shaw's call to Professor Jane Smith, an internationally recognized expert in the field. Professor Smith answers several questions posed by Mr. Shaw regarding network security. When Mr. Shaw asks Professor Smith to recommend a software package to identify security problems, Professor Smith tells him that NetCheks got the personal computer magazine's top rating. She does not mention that the same magazine gave a "best buy" rating to another product with fewer features but a much lower price. She also fails to mention that NetCheks is a product of a spin-off company started by one of her former students and that she owns 10 percent of the company.

Analyze Professor Smith's action in alignment with IEEE, ACM and Software Engineering Code of Ethics. Identify and justify the clauses which are strongly linked to this scenario.

Scenario 4:

The Internet is plagued by a new worm that infects PCs by exploiting a security hole in a popular operating system. TimSmart creates an antiworm that exploits the same security hole to spread from PC to PC. When Tim's antiworm gets into a PC, it automatically downloads a software patch that plugs the security hole. In other words, it fixes the PC so that it is no longer vulnerable to attacks via that security hole. Tim releases the antiworm, taking precautions to ensure that it cannot be traced back to him. The antiworm quickly spreads throughout the Internet, consuming large amounts of network bandwidth and entering millions of computers. To system administrators, it looks just like another worm, and they battle its spread the same way they fight all other worms.

Analyze TimSmart 's action in alignment with Software Engineering Code of Ethics. Justify the list of clauses that are most relevant to the case scenario No. 2

Scenario 5:

Acme Corporation licenses a sophisticated software package to many state, county, and city governments. Government agencies have the choice of three levels of service: the bronze level provides online support only; the silver level adds phone support; and the gold level includes training classes taught on the customer's site. The gold level of support costs $20,000 a year more than the silver level. Jean is one of the Acme employees who works in the support organization. Mostly, Jean provides phone support, but from time to time he teaches an on-site class. In fact, Jean created many of the instructional materials used in these classes. Because of the recession, quite a few government agencies have dropped from the gold level of support to the silver level, and some members of Jean's training group have lost their jobs. Jean has a family to support, and he is wondering if his position will soon be eliminated as well.

The state government of East Dakota is one of the many customers that no longer pays Acme Corporation for on-site training. One day Jean gets a call from Maria, who works for the East Dakota state agency using the software package.

Maria offers to pay Jean $5,000 plus expenses to run a five-day training class that covers the same material as the official course taught by Acme. Jean accepts the offer, but he does not inform anyone at Acme Corporation of his decision. Working at home on evenings and weekends, he develops his own set of instructional materials. He takes a week of paid vacation from work, travels to East Dakota, and teaches the class.

Based on Software Engineering Code of Ethics, analyse Jean's action . Identify and justify the clauses that closely fit in the case scenario.