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### Unit 1 Research Assignment

1. Freeware is defined as software that is available free of charge for an unlimited amount of time. Common examples of freeware include Skype and Adobe Acrobat Reader. In contrast, shareware is defined as software that is initially distributed free on a trial basis with the understanding that the user may need or want to pay for it later. Note that open source code would be the opposite of shareware. Shareware is often offered as a download from an Internet website or as a compact disc included with a magazine.
2. A software copyright is a legal copyright protection that deems it illegal to make or distribute copies of copyrighted material, including software, without authorization. If one pirates the software, they may face not only a civil suit, but also criminal fines of up to \$250,000 and up to five years in jail. A person can obtain a software copyright by registering with the U.S. Copyright Office, whose Circular 61 document provides detailed instructions for applying for software copyright registrations.
3. Code of ethics questions
  - a. In this scenario the programmer is violating section 2.6: Honor contracts, agreements, and assigned responsibilities. The programmer has violated a couple of its components. First, she is supposed to be “ensuring that system elements perform as intended.” Producing faulty software violates this. Second, given the

time crunch, she should have discussed the reality of being able to finish the job with her colleagues, as the section recommends: “A computing professional has a responsibility to request a change in any assignment that he or she feels cannot be completed as defined. Only after serious consideration and with full disclosure of risks and concerns to the employer or client, should one accept the assignment.”

- b. This scenario also violates the code in two places. First, in section 1.5 “Honor Property Rights Including Copyrights and Patent,” which states, “Even when software is not so protected, such violations are contrary to professional behavior. Copies of software should be made only with proper authorization. Unauthorized duplication of materials must not be condoned.” The programmer violated this clause by not getting authorization from the original producer of the software and then sold it for profit. Second, in section 1.6, “Give proper credit for intellectual property,” which states, “Computing professionals are obligated to protect the integrity of intellectual property. Specifically, one must not take credit for other’s ideas or work, even in cases where the work has not been explicitly protected by copyright, patent, etc.” The programmer did not give credit to the original producer, so he violated this clause too.
- c. This scenario also violates the code, namely section 1.7 “Respect the privacy of others.” The clause elucidates that, “It is the responsibility of professionals to maintain the privacy and integrity of data describing individuals. This includes taking precautions to ensure the accuracy of data, as well as protecting it from unauthorized access or accidental disclosure to inappropriate individuals.”

Because the programmer a) did not maintain the privacy of individuals by using it after his tenure at the job and b) did not protect the data from disclosure to others, he directly violated the code.

#### 4. GNU and open source questions

- a. Yes, it would be okay to download the GNU software, modify it, and offer it for sale at \$5,000 per copy. This type of business is actually encouraged by the GNU organization: “Actually, we encourage people who redistribute free software to charge as much as they wish or can. If a license does not permit users to make copies and sell them, it is a nonfree license.” The restriction here is that the license has to permit users to make copies and sell them in order for it to not be a nonfree license.
- b. No, it would not be okay to download an open source software product, modify it, and offer it for sale at \$5,000 per copy. Open source may be modified and distributed, but it must be distributed at no cost: “The license shall not require a royalty or other fee for such sale.”
- c. The GNU definition of free software is: “When we speak of “free software”, we're talking about freedom, not price. (Think of “free speech”, not “free beer”.) Specifically, it means that a user is free to run the program, study and change the program, and redistribute the program with or without changes.” The difference between this definition of free software and the previous definition of freeware and shareware is in the two definitions of free. Freeware refers to having no price,

not unfettered modification of the software, and shareware refers to an initial free price, but subsequently costs money.

### Sources

1. <https://techterms.com/definition/freeware>, <https://techterms.com/definition/shareware>
2. <https://www.forbes.com/sites/oliverherzfeld/2015/10/26/five-reasons-to-copyright-your-software-now/#677ffdc4dd6b>
3. <http://ethics.acm.org/code-of-ethics>
4. <http://www.gnu.org/philosophy/selling.html>, <https://opensource.org/osd>