

Copyright Violation due date at the beginning of lab

Purpose:

Code can be stolen just like anything else. Copyright law should protect the author from thieves. However, code can be altered just enough to appear to be something original, when it is in fact the product of copying. How can you tell what code is valid, and what code is a violation? What constitutes a violation of a software copyright?

Objectives:

- 1) Understand obligations under copyright law for software.
- 2) Analyze how the ownership of code can be determined.
- 3) Understand the unique issues involved in copyright for executable code.

Procedure:

Part 1a: Warm up

Sample 1:

```
for(temp = mHead; temp.next != null &&  
    mCompr.compare(temp.next.data, newNode.data) >= 0;  
    temp = temp.next);
```

Sample 2:

```
temp = mHead;  
while(temp.next != null &&  
    mCompr.compare(temp.next.data, newNode.data) >= 0)  
    temp = temp.next;
```

1. What qualities about these two code fragments reflect copied code?
2. What qualities about these two code fragments reflect unique code?
3. Would you consider the similarities of this simple algorithm to be a case of cheating or not? Why?
4. What would you do if you found out someone copied code you wrote without your permission?

Part 1b: SECOE

What provision(s) in the Software Engineering Code of Ethics apply to this lab? Give a brief justification for each that you choose.

Part 2: Hands-on Copyright Violations

a. Model a list of individuals that stores his or her name and age. The list should remain sorted by age, with the oldest individuals listed first.

Requirements:

- must implement a linked list data structure
- must use Java or C
- the following methods must be implemented (return values can vary, based on implementation):

insert(name, age)

- inserts new node into linked list
- new nodes are inserted in order by age
- ties are dealt with by inserting at the first occurrence of tied age
- names must be unique

delete(name)

- removes node with given name

b. Obfuscate the given code solution

You will be provided a solution by the professor. With the code given, modify it so that it appears to be an original piece of code. It **must** maintain exact functionality.

Valid Code Transformations:

1. change variable names
2. relocate blocks of code
3. modify (add or remove) comments
4. add additional, non-functional code
5. modify loop structure (while -> for, etc.)

When your code is completely modified, run the tests again to be certain that it still performs the same function. Then, hand-in the new code. Be certain to have your group name on your code.

c. Compare and Analyze

Your group will be given two solutions to the specification in (a). One of these is the solution from another group in the class; the other is an obfuscated version of the solution given to each group in (b).

1. Which code selection is the “copyright violation”?
2. What led you to choose the one that you did? Make specific references to the code, and perhaps the transformations that the “violators” might have done.

Part 3: Scenario Analysis

Note: This part is to be answered individually by all team members.

Consider the scenario below:

In the course of his work on a project, a consultant was asked by the client to copy a copyrighted software product he needed to perform his tasks. The consultant told the client that this was forbidden by his employer and was not in conformance with his code of ethics. In front of the consultant, the client copied the software, handed it to him, and told him that now he could work. Knowing that the client was at fault, the consultant used the pirated software¹.

Using the Software Engineering Code of Ethics, explain whether or not the consultant's behavior was ethical. What would you do if you were the consultant in this situation?

Part 4: Conclusions

Note: Be sure to answer all parts of each question.

1. Has cheating affected your life as a computer science student at Cal Poly? Have you seen it affect your peers? What are the similarities between copyright violations and cheating on programs in college? Differences?
2. If code is copied with permission from a peer or co-worker, is it still unethical or objectionable? How does this fit into SECOE (provision 7.02, 7.08)?
3. Two implementations can be almost identical, but not resultant from copying, while two others might only have a passing semblance, but one is the product of rampant copying. How does this fact complicate the task of a teacher, or lawyer, or juror trying to determine what is copied and what is original? Address this issue in a substantial paragraph response.
4. What has your group taken away from this lab exercise? What can be done to improve it?

Part 5: Deliverables (Proofread your work before turning it in!)

1. Individual responses to questions in Part 1a and Part 3
2. Original group code from Part 2
3. "Stolen" and obfuscated code from Part 2
4. Responses to questions in Part 1b and 2.c.
5. Group conclusions

Part 6: Lab Feedback (Optional)

What can we do to improve this lab exercise? What parts about it did you find worthwhile, and how can they be brought out more? What parts did you find unnecessary, and what would you replace them with?

Sources:

1) Parker, Donn B., Susan Swope, Dr. Bruce N. Baker. Ethical Conflicts in Information and Computer Science, Technology, and Business. Wellesley, Massachusetts. 1990.