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Copyright and Programmer

Computer Science and technology are growing and more developed which means that there will be more programmers. As a computer science student, I usually code to create programs and learn more programming languages. The issue that I think is more popular is the copyright of codes that are shared worldwide on the internet and other websites such as stack overflow. These codes are to be just fine to use as references, fair use and to learn from, but it is wrong if programmers copy and use other people's codes because violating the copyright and ACM or IEEE code of ethics. Before programmers know what should and should not do, then they need to know what the copyright and code of ethics or code of conduct.

What are the ACM and IEEE codes of ethics? ACM is known as "The CODE" which "expresses the conscience of the profession, which is to inspire and guide the ethical conduct of computing professionals or anyone who uses computing technology in an impactful way" (ACM). Instead of solving ethical problems, these codes are more focused on the copyright and decision-making of programmers. Through these 4 sections of the ACM codes, programmers will know the basic principles and responsibilities of a coder such as being honest and trustworthy and respecting others' work and ideas. IEEE is a non-profit organization, and it stands for Institute of Electrical and Electronics engineers. IEEE is the "guidelines which help to ensure that IEEE members are responsible, professional, and ethical by adhering to the same standards and expectations (Organizational Ethics)". The similarity is that help programmer avoids unlawful conduct, treat people fairly and with respect, and support others. The difference

is that the ACM is more focused on the smaller range of computing and IEEE has a broader range that focuses on computing and communication aspects.

In computer science, the copyright of code or programs is important to the programmer. Specifically, in the US when programmers create programs, they will be protected by copyright. According to Copyright.gov: "Copyright is a type of intellectual property that protects original works of authorship", in this case, the author is the programmer, and it could be you. So, before using any codes, you should be careful about what license agreement they use and should not violate the copyright. For example, there is a copyright case between Google LLC and Oracle America, Inc. The Oracle company sue that Google include 11,500 lines of codes from a tool that Oracle purchased in 2010 (Carlisle, Madeleine). Google won because they said that it is fair use, and they use it within the public's interest. In my opinion, 11,500 lines of code is a lot, and it could violate the copyright because they use ideas and codes from that tool without permission.

Open-source code such as GitHub or stack overflow also has its license agreement when their codes are public. I think that the MIT license is fit for my code, and I believe that it could be fair. I pick this license because it is the most popular license and easy to use. When you use other people's code that is under the MIT license need you to include the author's name, year, and the license in your code before use. The other license such as Apache 2.0 is more useful for bigger companies or organizations such as Apple, Microsoft, or Google.

As a Christian student, I think that it is a good thing to share and learn from others but not steal. Also, I believe that as a Christian worldview, people always support the ideas of sharing and adopting good and new things. Exodus 20:15 in ESV Bible, states that: "You shall not steal", this shows that it is not only violence against the copyright, or code of conduct but is also disobeying the word of the Lord. As a programmer, if I may reuse code from the internet – in

class, at work, making money from it, I should be thankful and appreciate the code and the programmer who create that code. Also, if I must completely copy their codes, I would include where I got them from. To be honest, I have been thankful for the open source codes, because I have been struggling a lot with coding, and then I need to do research about that problem and find out the solution and learn from it. In addition, the wall between good and bad is clear, and the code itself is just characters and strings, however, people may use it for good or evil purposes. As a Christian, I think that we should respect others' privacy and only use codes for good purposes such as inventing new systems, creating better programs, and making the network more secure.

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