Joanna Klukowska
joannakl@cs.nyu.edu

Homework 1: What is Open Source

Due date: Jan. 30 at 11:55pm

☞ You may be wondering why the first homework in the Data Structures class asks you to read about *open source*. There are several reasons. Even though open source has been around for a long time (more than most of you have been alive), in recent years more companies, institutions and governments are adopting it and are expecting potential employees to be familiar with concepts of open source.

Throughout this semester, we will be using code base of several open source projects to learn about Java, object oriented programming, data structures and algorithms. It makes sense that you understand what open source is, before you actually look at specific projects.

You may not be aware of that, but a lot of software that you use regularly is open source. Here are just a few examples: Firefox, Chrome, Open JDK (that is Java Development Kit), Eclipse, Android. The security protocol that protects the Internet (OpenSSL) is also open source.

You can read more about open source becoming main stream in some recent news articles. These are optional readings and you do not need these to answer the questions for the actual homework.

- 9 Biggest Open Source Stories of 2015
  http://www.cio.com/article/3017996/open-source-tools/9-biggest-open-source-stories-of-2015.html
- The Rise of Open-Source Platform
  http://www.enterprisetech.com/2015/11/12/the-rise-of-the-open-source-platform/
- Open Source Won. So Now What?
  http://www.wired.com/2016/08/open-source-won-now/
- David A. Patterson, Computer Science Education in the 21st Century. Commun. ACM 49, (3): 27-30 (March, 2006),
  http://goo.gl/400cMX

Instructions

1. Read the articles:
   - What is open source? http://goo.gl/imkU6D
   - Six misconceptions about open source software, http://goo.gl/7DHMhQ
   - How computer coding can increase engagement, provide a purpose for learning, http://goo.gl/uLlFuF
2. Answer the following questions. Your answers need to be typed and submitted in pdf format (you can use the google docs template at http://goo.gl/b9I10U and download it as pdf). All answers should be formed using complete sentences and should be in your own words (do not copy and paste answers from the websites provided).
   - What is meant by the *open source way* (note that this is NOT the same as open source software)?
   - How do open source licenses differ from proprietary licenses?
   - Open source software is important to everyone, even if you are not a programmer. Give two examples that show how open source software benefits someone other than a programmer.
   - Give two examples that explain why (some) programmers prefer using open source software.
   - The *free* in "free and open source software" doesn't mean free of charge. This is only one of the misconceptions many have about free and open source software. Briefly describe some of the misconceptions.
   - How do open source software principles apply beyond software?
   - What is HFOSS? How do FOSS and HFOSS differ?

Deliverables and Grading

You should submit your answers in a pdf document to Gradescope.

This homework is graded on a 0-3 scale (0 = no submission; 1 = homework submitted, but mostly incorrect; 2 = homework submitted, but there are some problems; 3 = homework submitted and correct).