

CS 304: Programming Languages

Programming Assignment 1

Aug. 27, 2012

Due: Monday, Sep. 3rd, 2012 before the beginning of the class period

For the following question, clearly explain your answers. Answers without explanations will not be considered acceptable.

1. (2 pts) Choose your favorite programming language (e.g., C, C++, Java). Given the chosen programming language, discuss its “writability” criteria according to the characteristics of programming languages that influence their writability. How “writable” is the programming language that you chose?
2. (1 pts) Describe nonprocedural languages and explain how they differ from purely procedural languages.
3. (1 pts) What common programming language construct (statement) besides the *goto* statement, in your opinion, is most detrimental to readability? Explain your answer.
4. (1 pts) What arguments can you make against the idea of a single language for all programming domains?
5. (1 pts) What two programming language deficiencies were discovered as a result of the research in software development in 1970s? Briefly explain each of these two deficiencies.
6. (1 pts) List and briefly explain the three fundamental features of an object-oriented programming language.
7. (1 pts) Name and explain another two criteria by which languages can be judged (in addition to those discussed in class and in Chapter 1).
8. (1 pts) Describe some design trade-offs between efficiency and safety in some language you know.
9. (1 pts) How do type declaration statements for simple variables affect the readability of a language, considering that some languages do not require them?

Turn In Procedures:

You may turn in your assignment via email (bkerkez@yahoo.com) or in person: on paper, or on any electronic media. If you wish to turn in your assignment via email, your file name should be in the format

lastName_FirstName_Assignment1.xxx

For example, John Smith’s assignment1 submission file would be named “Smith_John_Assignment1.xxx”.

If you chose to turn in your assignment via email, please make sure that you send your email via AU email system, and that the subject of the email message reads “**CS304 Assignment 1**”.

Please make sure that I receive your assignments before the due date and time. Late assignments will be accepted for 24 hours after they are due and will be penalized by a 50% deduction. No assignments will be accepted after the 24 hour period expires.