CSCE 314 Programming Languages – Fall 2015

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Assignment 1

Assigned on Wednesday, September 2, 2015

Electronic submission to eCampus due at 23:59, Tuesday, Sep. 22, 2015
Signed hard copy due at the beginning of class on Wednesday, Sep. 23, 2015

(After you turn in your file electronically, print your file and this page, write your name and UIN, and sign the honor code, then staple this coversheet and your file together and bring it to class.)

This assignment must be done individually.

"On my honor, as an Aggie, I have neither given nor received any unauthorized aid on any portion of the academic work included in this assignment."

Typed or printed name of student	Section (501 or 502)
Signature of student	UIN

1 Problem Statement

In this assignment, you will do some research on the programming languages. Choose any ten languages of your interest from the list below, plus Haskell and Java, thus twelve programming languages total.

1. FORTRAN
2. LISP
3. Scheme
4. ALGOL
5. BCPL
6. C
7. SIMULA
8. Prolog
9. FP
10. ML
11. Miranda
12. SQL
13. Eiffel
14. C++
15. Python
16. C#
17. X10
18. Fortress
19. Scala
20. Ruby
21. Perl
22. Matlab
23. Haskell*
24. Java*

* Haskell and Java are required.

Write a survey report explaining salient points of each language and comparing the languages, such as how some of the languages are related, how they differ, how one improves on another, and so on, regarding some characteristic categories (more details are on the next page). You will earn total 100 points.

2 Requirements and Page Limits

A required framework of your report is as follows:

1. Introduction (optional)
2. Explanation of the salient points of each language in 2–3 paragraphs per language. Include what the purpose of developing the language was and what the main usage of the language is/was.
3. Comparison of the languages according to some categories (at least two categories), for example, programming paradigm, purpose, abstraction technique, compilation technology, error/exception handling, strong/weakly typed, memory management, efficiency, argument passing methods, and so on. Feel free to do research on different categories, elaborate within the categories, and/or propose an improvement of a certain language regarding its techniques and paradigms.
4. Conclusions (optional)
5. Acknowledgements (optional)
6. References (very important!)

This is an open-ended assignment. There are many interesting subtopics you can think about and write a report about regarding those programming languages. Your report must be at least 4 pages and at most 6 pages.

3 Honor Code and Submission Requirements

1. This homework set is *individual* homework, not a team-based effort. Discussion of concepts is encouraged, but actual write-up of the report must be done individually.
2. Submit a nicely type-set PDF file (using LaTeX strongly recommended), a1.pdf, and nothing else, on eCampus.tamu.edu using the turnitin system. A hand-written-&-scanned file will not be accepted.
3. Remember to put the title of your report, your name and UIN in the beginning of the report. Acknowledge any help received, and reference any resources used in doing this assignment, such as articles, webpages, books, persons, etc. Make sure you use the correct bibliographic information, correctly cite the references within the text, and put the references at the end of your report. Example .tex, .bib, and .pdf files are provided for your information (on the course homepage).
4. Remember the Aggie Honor Code. Do not simply cut-&-paste sentences from the web! **If you do not turn in an honor-code signed hard copy, your work will not be graded.**