3-Phase Term Project: The Complete Genealogy of Programming Languages

-- Extension of the genealogy graph of the textbook.

Group: 2 members only

This group project aims to study the evolution of programming languages and construct its genealogy graph. The project is conducted in the 3 phases below. At each stage, each group member decides her/his role in the project, studies the languages and completes the graph and the report for submission. At the end of the project, you are expected to have a perspective on the programming language family and understand the languages' evolution with the features in a family hierarchy.

Phase I: Summary of the current genealogy (graph) of the book:

For each arrow from a parent language to a child language as a new language or a newer version in Fig. 2.1, specify some essential changes of feature (i.e. addition of a new feature, deletion of a feature, new support, etc.) in the graph and describe it in detail in the report.

e.g.) Fortran 77 \rightarrow Fortran 90: The new features of modules, dynamic arrays, are added.

- Submission: 5+ page report and a graph with specification of changes
- Due: 9/28 (Sat.)

Phase II: New Languages or new version of the languages since 2015: 5+ languages

- 5+ page report
- Citation: Official website of a language provide a link.
- Description of the language:

Background: environment of development, history

Design goal,

New/improved features,

the difference from some other languages,

Evaluation: Contribution, concerns, advantages, and disadvantage, etc.

etc.

- In the graph, add the nodes of these new language/version, connect them from the parent language(s) with the edges and the specification of changes.
- Due: 10/26 (Sat.)

Phase III: Languages not in the chart: 5+ languages (before/after 2015)

Example: Rust (birth: 2010, stable release: 2014), R, F#, etc.

- 5+ page report
- Citation: Official website of a language provide a link
- Description of the language:

Background: environment of development, history

New/improved features,

the difference from some other languages,

Evaluation: Contribution, concerns, advantages, and disadvantage, etc.

etc.

- Add them to the graph with the (parent languages) and the parameters?
- Due: 11/23 (Sat.)

Format of the report:

- 1.5 space, 11 pt, single column, margin 1 inch per side (Top/Bottom/Left/Right)
- Give the list of references any offline/online articles on the programming languages. If they're online references, provide their link. Wikipedia is NOT appreciated.

Drawing of the graph:

You may use the given templates or create them.

Submission:

- Final genealogy graph with the Phases I III.
- Report for each phase I III in MS Word file.
- Deadline: by the end of the day at each due date.

If there is any changes, it will be informed.