Texas Christian University
Programming Language Concepts - CoSc 30403, Spring 2017

What to emphasize in your term project report:

- **History of the language:**
  - Why was it developed, by whom, and when?
  - Application areas addressed (is it the only language suitable for a specific problem?)
  - Is it a “general purpose programming language” or “special purpose”?

- **Evaluation criteria:**
  - **External:** easy maintenance, reliability, portability, efficiency, training time, reusability, pedagogical value
  - **Internal:** readability, writeability, simplicity, orthogonality, consistency, expressiveness, abstraction

- **Features you should emphasize:**
  - Special features are unique to the language?
  - Transmission methods supported
  - Control structures
  - Expressive operators (overloaded, array operators, pattern matching, etc.)
  - Abstract data types, polymorphism, overloading, aliasing, etc.?

- **Code samples**

**Report Schedule**

**Progress Report #1 (Due: Thursday, February 9, 2017) must include:**

1) Preliminary bibliography of sources (2 - 3 books (other than your textbook required), your textbook, web references, etc.). GO TO THE LIBRARY!!

**Progress Report #2 (Due: Thursday, March 2, 2017) must include:**

1) Preliminary Table of Contents and paper outline.
2) History and overview of the language you have been assigned. These two sections should be largely complete and ready to merge into the final report that you create for your project.
3) Intermediate bibliography that you have chosen for information related to your assigned language.

**Progress Report #3 (Due: Thursday, March 23, 2017) must include:**

1) Application areas and significant features of the language you have been assigned. Should include information about the strengths and weaknesses (if any) of the language, what features it has (that other languages don’t have), and the application areas that it is most often used in (and why it is well suited to these areas). These two sections should be largely complete and ready to merge into the final report that you create for your project.
2) Intermediate bibliography that you have chosen for information related to your assigned language.

**Progress Report #4 (Due: Thursday, April 6, 2017) must include:**

1) Illustrations and explanation of language syntax (control & data structures, I/O, parameter passing methods, scope rules and examples, etc) and semantics (any unusual construct requirements, etc.). These sections should be largely complete and ready to merge into the final report that you create for your project.
2) Finalized bibliography that you have chosen for information related to your assigned language.
Finalized Term Project Report (Due: Friday, April 21, 2017) MUST include:

1) Table of contents (turned in as Progress Report #2 - see schedule above)
2) History and overview of the language (turned in as Progress Report #2 - see schedule above)
3) Application area(s) that the language is best suited for and why. (turned in as Progress Report #3 - see schedule above)
4) Features of the languages (turned in previously as Progress Report #3 - see schedule above)
   • Positive features of the language (why did it develop?, etc.)
   • Negative features or weaknesses of the language
   • Entirely new features or contributions pioneered by the language
5) Illustrations and explanation of Language Syntax (turned in as Progress report #4 - see schedule above)
   • Control structures
   • Data structures
   • I/O
   • Parameter passing methods - with illustrations.
   • Scope rules
6) Unusual Semantic Issues (turned in as part of Progress report #4 - see schedule above)
7) Example Programs
   • Hello world
   • Looping example (sum the first “n” integers - “n” entered as input, sum displayed as output)
   • Data structures example (“Bubble-sort”)
   • 2-3 Examples of your choice illustrating special features of the language – one of which, may be your solution to the problem assigned in class.
8) Brief users manual
   • How to use the language on our departmental machines (Linux, Win, or Mac)
   • The installation process (where must files go, naming conventions, etc)
   • How to connect to files (for I/O purposes)
   • Where to obtain the language compiler from the internet (URLs, etc)
9) Summary
10) Bibliography (turned in as part of Progress Report #4 - see schedule above)

Your Presentation (Due: on your assigned presentation date, April 25 – May 2, 2017) should include:

   i. Use of transparencies/PowerPoint (Keynote) presentation
   ii. Type-written, bound copy of all work related to your presentation (spell checked and proper grammar, contents as specified above
   iii. Handouts for other members of the class
   iv. Professional delivery (proper dress (no shorts – uniforms acceptable), correct grammar, communication skills, etc).
   v. All team members involved in the presentation.

Your CD (Due: Presentation Day, April 25 – May 2, 2017) should include:

1) Copy of various progress reports,
2) Finalized version of your term paper,
3) Everything related to your presentation (slides/transparencies, handouts, etc.),
4) Copy of software (compiler and language reference manual).