

CSC-226

Programming Languages

Due: see syllabus

(Team) Project #3 Exploring Functional Languages

PowerPoint Presentation (approx 15 min)

Learning Objectives:

* Investigate the important features of the functional languages paradigm
* Work as a productive member in a team
* Compare language paradigms

#1. Research the language assigned to your group

#2. Discuss the significant features of the language – how is it used, by whom, what are it’s most popular applications/uses

You should understand the language well enough to discuss:

* Is it greedy or lazy in terms of evaluation
* Does it allow side effects? Is it referentially transparent?
* Is it a “pure” functional language? If so, explain that statement, if not be able to explain why not.

#3. Show/and document (explain)

1. Factorial (n) using recursion
2. a simple program to demonstrate the syntax
3. and a second program that includes subprograms, recursion, and parameters to demonstrate program control, scoping and evaluation rules.

#4 How does this language compare in terms of efficiency, error checking, and program verification to Java, and to the modern scripting languages (pick one studied for comparison)?

Notes regarding #3:

1. Each student in the group needs to be able to understand the language well enough to code small, simple recursive programs for your assigned language – you will each need to submit (independent) programs for Project #4.

2. However, only 1 program needs to be presented for the presentation; make it intellectually interesting…it needs to have subprograms, recursion, and parameters that maybe subprograms.