

CSE 399-005 Python Programming, Spring 2006

Homework 4

April 14, 2006

Instructions

1. This assignment is due on Monday April 24 at 11:59 PM.
2. You may discuss this HW *in a high level* with another student, but you should write your partner's name in `debrief.txt`. High-level discussions include algorithmic design (but **not** how to implement them), input/output specifications, language-independent concepts like regular expressions and command-line arguments, etc.
3. Other instructions follow HW 3.

Problems

You are just required to do **two** out of the five problems. Every problem is worth 50 points.

Part of them are based on student presentations.

Problem 1 - Search in Small World Phenomena

Main program: `shortest.py`

You are to implement both iterative deepening depth-first search (ID-DFS) and depth-first branch-and-bound (DF-BnB) based on your program in HW3.

Specification. We add two switches to the command-line:

```
./shortest.py [-h] [--help] [-d max] [-i|-b] URL1 URL2
```

where `-i` means ID-DFS and `-b` means DF-BnB. They can not be both present and if neither of them are present, use whatever algorithm you have in HW3.

Problem 2 - Perl for Word Frequencies

Main program: `word.pl`

Redo problem 1 of HW 2 (word frequencies) in Perl.

Problem 3 - Ruby for Rationals

Main program: `rational.rb`

Redo problem 2 of HW 3 (rational numbers) in Ruby.

Problem 4 - Scheme for Interleavings

Main program: `interleave.scm`

Redo problem 2 of HW 2 (interleavings) in Scheme.

Problem 5 - OCaml for Permutations

Main program: `perm.ml`

Redo problem 1 of HW 1 (permutations) in OCaml.

Debriefing

Please answer these questions in `debrief.txt` and submit it along with the programs. There will be 5 points off if you didn't submit this part. If you realized that you forget this part after the deadline, you can just email your `debrief.txt` to TA Bill (`kandy1as@cis`).

1. How many hours did you spend on this assignment?
2. Would you rate it as easy, moderate, or difficult?
3. Are the lectures too fast, too slow, or just in the right pace?
4. Any other comments?
5. If you discussed this HW *in a high-level* with somebody else, who is your partner?