STAT 598Z–Introduction to Computation for Statisticians
Background Survey
January 8, 2013

Section 1. Tell us about yourself

1. Name:
2. Department:
3. Degree (MS/Ph.D):

Section 2. Motivation for taking this course

4. The main reason I am taking this course is because (tick as many as applicable)
   (a) This is a required course
   (b) My advisor thought it was a good idea
   (c) I think it will help me with my research
   (d) Other (please specify)

Section 3. Tell us about your preparation

5. List up to three courses that you took (at Purdue or elsewhere) which involved programming assignments (e.g. CS 190C: Introduction to computer science, STAT 598Z Concepts in Computing with Data). Also list the programming languages and operating system used (e.g. R on windows).
   (a)
   (b)
   (c)
6. How familiar are you with Python?
   (a) I am a guru (I regularly hack on internals of Python)
   (b) I have written $>$ 1000 lines of code in Python
   (c) I have written $<$ 1000 lines of code in Python
   (d) What exactly is Python?
7. How familiar are you with *R*?
   (a) I am a guru
   (b) I have written $>$ 1000 lines of code in *R*
   (c) I have written $<$ 1000 lines of code in *R*
   (d) I have never written a *R* program
8. Please list up to three programming languages other than *R* and Python that you are most familiar with (e.g. SAS, Matlab, C, C++, C#, Java). Also indicate level of familiarity.
   (a)
   (b)
   (c)

9. How familiar are you with a UNIX based operating system?
    (a) Very familiar (use it everyday)
    (b) Fairly familiar (use it at least once a week)
    (c) Mildly familiar (use it once a month or less)
    (d) Never heard of it
10. How familiar are you with LaTeX?
    (a) Very familiar (use LaTeX for all my scientific writings)
    (b) Fairly familiar (sometimes write some assignments and papers with LaTeX)
    (c) Mildly familiar (use it infrequently)
    (d) Never heard of it

Rate your familiarity with the following concepts or keywords:

11. **maximum likelihood estimation:**
    (a) Very familiar
    (b) Fairly familiar
    (c) Mildly familiar
    (d) Never heard of it
12. **multidimensional Gaussian distribution:**
    (a) Very familiar (write the formula in the space below)
    (b) Fairly familiar
    (c) Mildly familiar
    (d) Never heard of it
13. **convex optimization:**
    (a) Very familiar (give on example of a convex function in the space below)
    (b) Fairly familiar
    (c) Mildly familiar
    (d) Never heard of it
14. **writing vectorized code (aka avoiding for loops):**
    (a) Very familiar (show how you will square all elements of a vector in R or Python)
    (b) Fairly familiar
    (c) Mildly familiar
    (d) Never heard of it
15. **quicksort:**
    (a) Very familiar
    (b) Fairly familiar
    (c) Mildly familiar
    (d) Never heard of it

Rate your familiarity with the following data structures:

16. **Array:**
    (a) Very familiar
    (b) Fairly familiar
    (c) Mildly familiar
    (d) Never heard of it
17. **Linked Lists:**
    (a) Very familiar (give a situation where you will prefer an array over a linked list)
    (b) Fairly familiar
    (c) Mildly familiar
    (d) Never heard of it
18. **Stack or Queue:**
    (a) Very familiar
    (b) Fairly familiar
    (c) Mildly familiar
    (d) Never heard of it
19. **Binary Tree:**
    (a) Very familiar (write pseudo-code for depth first traversal)
    (b) Fairly familiar
    (c) Mildly familiar
    (d) Never heard of it

Section 4. Your expectations

20. In a few brief sentences describe your expectations from the class. In particular, what practical and theoretical tools and concepts do you expect to learn from this class (use additional space if needed).

21. How much time (outside of class) do you expect to spend on the course?
    (a) Between 0-2 hrs a week
    (b) Between 2-5 hrs a week
    (c) Between 5-10 hrs a week
    (d) More than 10 hrs a week (pls specify)