Math 455   Class 13   Feb 18

Practice Midterm is posted! (HW 6)

   Coding questions from interviews:

   Example: (C++)

   Explain all the uses of const in the following
line of code:

   const int * const & foo (const int * const * p) const;

Of course we can't have C++ or Python on the

midterm; this is just to give you the flavor.

Example: (Python)

   a = [1, 2, 3]
   b = a
   b [1] = 5   What is printed?
   print (a)   Answer: [1, 5, 3].

We will look at some examples in R.

Another type of midterm question:

Write a sentence interpreting a regression coefficient. (Discussed in Ch. 5 Faraway)

Suppose we have data on patient diets and blood cholesterol. We want to interpret the coefficient representing consumption of avocados.

Good: Patients who ate 1 avocado per day tended to have blood cholesterol 10 mg/dc lower, holding other factors (variables) constant.

Why is it good?

(1) choice of units
(2) doesn't imply causality.
(3) notes that other variables are held constant in the comparison.

Bad: Eating 1 avocado per day caused patients to have lower blood cholesterol.

Why is it bad?

    (1)   implies causal connection

    (2)   does not say magnitude of effect.

Bad:

Eating 100 avocados per day caused patients to have blood cholesterol 1000 mg/dL lower.

Why is it bad?

    (1) implies causality

    (2) bad choice of units.   Hard to eat 100 avocados.

Bad to the point of ridiculous: Score zero!

"Avocados have low blood cholesterol."