How to Fish

I've decided that today would be a departure from the course material. It's week five and we're almost a week ahead of schedule. Based on questions asked after lecture, online, and during the labtests, I feel that some of you might benefit from advice on preparing for and taking tests.

I do encourage you to take notes, but you will not be directly tested on this material. My hope is that this lecture will help better prepare you for assignments and tests not only in 1020, but your other university courses as well.

I'm calling this lecture "How to Fish".

Proverb

Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime.

What does fishing have to do with CSE1020?

This lecture was inspired by an ancient (Chinese?) proverb: (Read slide)

Why Attend University?

- To learn how to learn

- To learn how to think

(I'm guessing all of you have your reason for attending university)

OR

(Let's return to my original question. Why attend university?)

I believe the best reasons are to learn how to learn and to learn how to think. I don't mean what to think – that's up to you. But how to explore possible options, evaluate them, and to take a course of action.

Consequently, when you have a question to answer or a problem to solve, you'll be able to tackle the issue yourself without needing to rely on others. This skill can be an asset on an assignment, on a test, in a job position, or to life in general.

Let me give you an example: Over the past few weeks, questions on the course forum have included requests for my email address. When I respond, rather than simply giving my email address, I give directions on how to obtain that information yourself. The next time you need to lookup information about the course, you'll know where to look.

This is an example of teaching someone how to fish, rather than simply giving a fish.

Change of Focus

- High-school focus
  - Echo concepts, definitions, and formulae
- University
  - Used learned concepts, definitions, formulae to solve a specified task/problem
- CSE1020
  - Labtests: focus on practice
  - Exams: focus on theory

In high-school, tests typically focus on your ability to remember concepts, definitions, and formulae

However, in university, the focus switches. You are expected to know the important concepts, definitions, and formulae and use them to solve an assigned task or problem.

In 1020, the focus is further divided into practice and theory. Labtests focus on coding, compiling, and testing, while exams focus on problem-solving techniques.

Examples

- A high-school question might be:
  - "What is a compilation error?"

- A labtest task might be:
  - "Create a program with the following specifications. Using the compiler, isolate any syntax errors and correct them."

- An exam question might be:
  - "Compilation of a program generated the following exception. What steps should you take to correct the problem?"

Tips for Success

- Follow instructions
- Use previous experience to your advantage
- Use the resources available to you

Here are some tips for success.

(Read slide)

Let's look at each one individually as they relate to 1020.

Sample Test

- 5 minutes to complete
- Use a pen
- No talking during the 5 minutes
- At the end of 5 minutes, we'll review answers

Please close your textbooks and take out a pen. I will be handing out a sample test. Please leave it turned over until I tell you to start. Once you start, you will have 5 minutes to read and complete the test.

Please do not talk during the test. Keep your eyes on you own paper. Once 5 minutes are up, we will take-up the test as a group.

Following Instructions

- Careful reading can yield important information

- Examples:
  - eCheck03A
  - Labtests
    - Hints
    - Proper output

As the previous exercise demonstrated, careful reading can yield important information.

Some examples include eCheck03A. How many of you read Chapter 3 in its entirety and noticed that pages 127 – 129 outline how to write the program.

In the labtests, careful reading can reveal hints and the proper formatting of output. I saw several submissions with spelling errors in the output. Personally, I'm a horrible speller. That's why, whenever possible, I copy and paste the text for prompts and output.

Previous Experience

- eChecks

- Lab activities (e.g., "I Spy in the API")

- In-lecture exercises

Prior experience can be a huge asset. That's why there are regular lab activities assigned to you. Although eChecks are the only ones for which you earn marks, other lab activities and in-lecture exercises are also valuable. The exercise "I Spy in the API" aimed to get you familiar with using the API. In addition, since only one of the two eChecks for each chapter are assigned, the other serves as an ideal exercise for test preparation.

For example the Wednesday labtest was a combination of the Mortgage exercise and eCheck03A. The Friday labtest was a combination of the Mortgage exercise and eCheck03B.

Available Resources

- API Documentation

- Multi-tab browsing

- Find/Search tools in browser

Let's focus on the challenges of a labtest.

You aren't expected to know all the classes available to you. You aren't expected to know the required parameters, return type, or purpose of all the methods available to you. That's what the API is for.

Navigating the API using a browser's forward and back buttons is time consuming. I recommend that you keep the task specification open in one tab, the API's main page in another tab, and the a specific class's page in another tab.

However, the most valuable feature of a browser-based API is the using the browser's built-in find tool. As an example, let's search for "radians" in the Math API. Press Ctrl+F, type "radians" and press "Next" until you find what you're looking for. An another example, let's search for "natural logarithm". We find the method for calculating ln.