

CS100M/CIS121/EAS121 Spring 2004

Assignment 1: The Phantom M-File

Due Wednesday, February 4, 11:59:00 PM

0. Introduction

0.1 Objectives

This assignment will help you to do the following:

- Understand CS100M course policies.
- Learn how to use CMS.
- Practice developing an algorithm.
- Practice using MATLAB.

0.2 Instructions

Be sure to read the *entire* assignment before answering the questions! Do the tasks in the following sections. You must work by yourself for this assignment. Future assignments will allow partners.

0.3 Submission

Tasks G and H explain what to submit on CMS. Be very careful about following all of our submission format requirements!

0.4 Grading

Refer to Section 8.5 of the course syllabus for an explanation of how we grade assignments. If you have registered for the course after the due date, we will count this assignment as the assignment that you may drop for the course. If you completed CS100J's Assignment 1 (called *Project 1*) instead of this assignment, we will accept the grade that they give you.

0.5 Academic Integrity

You must abide by the Code of Academic Integrity, which is provided for CS100M, the Department of Computer Science, and Cornell University on our course website. Refer to the link called [Academic Integrity](#).

1. Task A

Confirm that you have access to CMS. If you do not, you must contact your section TA or the course administrator no later than one day before the due date of the assignment. Read *all* of the **Submission Format Requirements** at the [CMS Info](#) link on the course website.

2. Task B

Create an *ASCII text* file called **discussion.txt** in which you write the answers to the questions in this assignment in Tasks C and D. Write a MATLAB *comment block* at the top of **discussion.txt**, as specified in the submission format specifications.

3. Task C

Review the course website (mainly the syllabus) and answer the following questions inside **discussion.txt**. You do not have to retype the questions. For example, here's what would have been fun to ask:

Q0) What is the air-speed velocity of an unladen swallow?

Your correct answer would be written inside **discussion.txt** as this:

A0) What do you mean? An African or European swallow?

Here are the real questions to answer:

Q1) How often are you supposed to read announcements posted on the course website?

Q2) Where is DIS's office?

Q3) True or false: A student may freely show up late to lecture, walk in front of the instructor, and read a newspaper during class.

Q4) Where do we post textbook readings, examples, and lecture notes?

Q5) Are students required to attend section?

Q6) Suppose that a student writes some of the solutions for a particular assignment with a partner. Then, the two students "divorce" because of irreconcilable differences and wish to work alone or perhaps with other partners for the remainder of the assignment. According to the rules of Academic Integrity, may they do so? Refer to Section 8.2 of the syllabus, as well.

Q7) None of the following approaches is a good idea. Correct each of them:

- Save no backups of your work. Burn your bridges!
- Never coordinate with your partner in advance of a due date to make sure you have created a group on CMS.
- Do not double check the contents of your solution file(s) that you submit.
- Submit programs that don't compile.
- Decide on not reading the instructions on required formats for submissions because DIS is just too verbose.
- Borrow as much code as you possibly can from someone other than your partner and pray that the staff does not catch it.
- Avoid getting help from the multitude of people (consultants, TAs, instructor) if you get stuck. After all, you can try to learn all of this during the study period.

Q8) Where will you see all of your grades posted?

Q9) Where may you retrieve your prelims?

Q10) What is the procedure to submit a regrade for a prelim?

Q11) What is the URL for CMS? Should you write this down somewhere?

Q12) If a student in CS100M receives 75 on Prelim 1, 86 on Prelim 2, 67 on Prelim 3, 9 on all assignments, a perfect exercise score, and an 82 on the final exam, what is the minimum letter grade that the student will get? Note that prelims and the final exam are graded out of 100.

4. Task D

Read Sections 1 and 7 of the course syllabus. Following the posted instructions (and possibly getting help from a CS100 or CIT consultant), post a message in the course newsgroup with a subject line that has your Net-ID and a happy, friendly greeting to all the other students in the message *body*.

5. Task E

Create an *ASCII text file* called **myAlgorithm.txt** (see submission specifications). Put a MATLAB comment block at the top. Inside the file, you will write an algorithm for the following scenario.

Suppose that after an exam, the proctors randomly collect all of the exam papers and put them in one big pile for DIS to sort. He needs an algorithm that will help him to alphabetize the exam papers to assist with processing grades. Write an algorithm that he can apply, using these specifications:

- The CS100 students are supposed to write their last name before their first name on their exam. You must include ways of handling situations when students make mistakes in writing their names.
- You cannot change how the staff initially collects the exams.
- Only one person (DIS) can manually alphabetize the pile of papers.

Keep your algorithm general, properly structured, and very detailed, using pseudocode. The level detail should produce *about* half a page of instructions.

6. Task F

Create a M-File script called **myProgram.m** that does the following actions:

- Computes and reports the sum of $1 + 1$.
- Computes and reports the result $\frac{1+2}{3}$. Hint: You might need to experiment with parentheses (()) to get the correct result.
- Stores the array **1:4** in a variable called **x** and shows the result of this instruction. Hint: The command for storing a value (or array of values) is **var = values**. For example, **x = 1** stores the value **1** inside variable **x**.
- Generates a plot of the values you stored in **x**, using the **plot** function. If you don't remember plot from lecture, enter **more on ; help plot** at the command prompt.

Remember that the program must have an appropriate comment block at the top, as specified in the submission requirements.

7. Task G

Zip your solution files (**discussion.txt**, **myAlgorithm.txt**, and **myProgram.m**) together in a file called **alsolcs100msp04.zip**. Then, make a new folder, put the zip file inside that folder, unzip the files, proofread everything, and test your code in MATLAB. Why? You should always check your work! Be sure that you zipped the correct files!

8. Task H

Submit **a1solcs100msp04.zip** on CMS well before the deadline. If you choose to wait until the last possible minute (or second), you run the risk of not submitting it on time. We do not accept late work, as discussed in the syllabus. Note that CIS/EAS students also submit their work, which is identical, on the CIS/EAS121 site on CMS.