

CS 341: Programming Languages Design and Implementation—Homework 1

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Due: Sun, 10 Sep 2023 at 11:59PM

Policy: Individual work only, no late submissions.

Assignment: small C++ program

Submission: submit electronically on Gradescope. We will not use the autograder for this submission, so please submit with a ReadMe and a Makefile.

The secret of success Start immediately. Work until you get stuck. Ask a question on piazza (see below). Do some other course's assignments.

Exercise: File I/O and submitting a C++ application

Read the contents of a file and output them.

Your program (in a file named `main.cpp`) will read a single line from standard input. The input is the name of a data file. Use that name to open the file, read its contents, and echo them to standard output.

For example, in the template folder included in Box, I have two sample inputs, `input1.in` and `input2.in`, and the files those inputs reference. Feeding these inputs to the program, either manually or by redirecting the `.in` files to the executable, causes the program to read from the files referenced within, `file1.txt` for `input1.in` and “A second file” for `input2.in`.

The output of the application is as follows (I have already compiled my solution to `Homework1.exe`, you may enter the input manually in your ide):

```
input1.in
```

```
C:\test>Homework1.exe <input1.in
Sample input
C:\test
```

input2.in

C:\test>Homework1.exe <input2.in

The file may contain spaces

new lines

and need not have an extension. It may end with any number of new lines, which should

C:\test

Piazza, not email

Do not use email for communication—all class-related emails will be ignored. To provide assistance, answer questions, and post announcements, we will be using a forum-based web site called Piazza. You should think of Piazza as your primary mechanism for all class-related discussions and questions. Piazza allows students and staff to help one another, reducing the time-to-answer. Your professor and TAs will check Piazza repeatedly each day—you should get in the habit of doing the same. Before posting, please search Piazza as the answer to your question may already be online. When posting, please follow these guidelines:

1. *Look before you post*—the main advantage of Piazza is that common questions are already answered, so search for an existing answer before you post a question. Posts are categorized to help you search, e.g. “Pre-class” or “HW”.
2. *Post publicly*—only post privately when asked by the staff, or when it’s absolutely necessary (e.g. the question is of a personal nature). Private posts defeat the purpose of piazza, which is answering questions to the benefit of everyone.
3. *Don’t post any part of your answer*—if you do, you just gave away the answer to the *entire class*. Sometimes you will need to post code when asking a question—in that case post only a fragment that denotes your question, it should not be part of your (in progress) solution.
4. *If you do need to post code* then do so **privately** — there’s an option to create a private post (“visible to staff only”).
5. *Ask pointed questions*—do not post a big chunk of code and then ask “help, please fix this”. Staff and other students are willing to help, but we aren’t going to type in that chunk of code to find the error. You need to narrow down the problem, and ask a pointed question, e.g. “on the 3rd line I get this error, I don’t understand what that means...”.

6. *Post a screenshot*—sometimes a picture captures the essence of your question better than text. Piazza allows the posting of images, so don't hesitate to take a screenshot and post; see <http://www.take-a-screenshot.org/> for quick ways to take a screenshot on your platform of choice.

Electronic Submission

Before submission, make sure your name appears in the header of your `main.cpp` source code file. When you are ready to submit, login to Blackboard, find Assessments in the left hand side, then follow the link to Gradescope (or navigate to Gradescope directly), and then submit only your `main.cpp` file to “Homework 1”. You may submit as many times as you want, but we grade only the submission you indicate (generally the last submission, let us know via piazza if you want an earlier submission graded and don't know how to do so).

Policy

All work is to be done individually — group work is not allowed. While we encourage you to talk to your peers and learn from them, this interaction must be superficial with regards to all work submitted for grading. This means you **cannot** work in teams, you cannot work side-by-side, you cannot submit someone else's work (partial or complete) as your own. The University's policy is available here:

<https://dos.uic.edu/conductforstudents.shtml> .

In particular, note that you are guilty of academic dishonesty if you extend or receive any kind of unauthorized assistance. Absolutely no transfer of program code between students is permitted (paper or electronic), and you may not solicit code from family, friends, or online forums. Other examples of academic dishonesty include emailing your program to another student, copying-pasting code from the internet, working in a group on a homework assignment, and allowing a tutor, TA, or another individual to write an answer for you. It is also considered academic dishonesty if you click someone else's iClicker with the intent of answering for that student, whether for a quiz, exam, or class participation. Academic dishonesty is unacceptable, and penalties range from failure to expulsion from the university; cases are handled via the official student conduct process described at <https://dos.uic.edu/conductforstudents.shtml> .