

UMass Boston CS 410
Homework 1
Posted Thursday, February 5, 2026
Due Thursday, February 12, 2026 at 11:59 pm

0 General Instructions

Homework must be typed and converted to Portable Document Format (PDF), see <https://en.wikipedia.org/wiki/PDF>. Upload your hw1.pdf to your course directory on the CS server.

To submit your homework, prepare one PDF file called `hw1.pdf` — the filename must be exactly `hw1.pdf`, otherwise it will not be collected by the script. Upload the file to `/home/<csusername>/cs410/hw1.pdf` — note that the homeworks will all be listed in your course directory without a subdirectory.

If you have trouble with uploading, email operator@cs.umb.edu for immediate help. The questions in this homework are based on the reading in Agile Principles, Pro Git by Chaucon and Essential Scrum by Kenneth S. Rubin. The first questions reviews files you have placed on the server.

1 nnnn.txt questions, 10 points

In class, in Week1, you handwrote your `nnnn.txt` file: filename: `nnnn.txt` NNNN: write last four digits of student id FIRST NAME and LAST INITIAL: write yours PREFERRED SKILLS: write at least 3 and no more than 8, one word or abbrev. For ex., java, C PREFERRED ROLES: say what software job you think you would enjoy most. For ex., team leader

The lesson plan (LP) on the class website asked that you create the file on the server in your home directory. If you did not type the data into the file during class, please access the server now and use an editor on the server to create it. The script will collect it from your home directory (**5 points**).

Access the server and display the file by typing `cat nnnn.txt`. Take a photo of it and include it in this hw1.pdf (5 points).

2 Pro Git questions, 50 points

For this question, be sure you have read chapters 1-2 in Pro Git.

Git is a well-known version control system invented in 2005. Compare Figures 1-1, 1-2, and 1-3. In your opinion, in one sentence, what is the essential characteristic of a Distributed Version Control System (**5 points**)?

Compare Figure 1-4 to Figure 1-5. Every time you commit or save state, git stores a snapshot of all your files. In your opinion, in one sentence, what is the advantage of this approach (**5 points**)?

Git is installed on the cs servers. Access the server and type the two identity commands (p11) to set your git user.name and user.email. Then type `git config --list` to see what you have. List the data here (**5 points**).

Briefly, reread page 7 and, in two sentences, explain the check-sum method git uses (**5 points**).

Briefly, reread page 8 and list the three git workflow steps here (**5 points**).

Now, access the server and put two files from your first website project under git. One file is you index.html. The other file is any artifact for that small project that you choose. It could be you R01.txt file. Create a subdirectory in your course directory named `startgit`. Copy the files there. Then follow the directions in Pro Git chapter 2 to put those files under git control. You will make a `.git` directory inside your startgit directory. List your check-sum (git hash) from your commit here (**25 points**). Graders will look at your startgit directory to see whether your files are there, staged and committed.

3 Essential Scrum questions, 40 points

For this section, be sure you have read chapter 2 in Essential Scrum and looked at the seven images accessible from the class website showing the figures from chapters 1 and 2.

The three figures from Chapter 1 give a simple outline of the method we follow. The complex environment is the one that is usual for developers. Please explain the characteristics of a complex environment in one short paragraph (**5 points**).

Now study Chapter 2 and explain each of the drawings in each of the remaining figures linked to the website. Write one sentence per figure (Figures 2-1, 2-2, 2-3, 2-4 and 2-5) explaining the parts shown in the drawing (**3 points each, 15 points altogether**).

Now describe the product backlog for your team website project. Give the list of the features that were built. For each feature give the parts that it was divided into (which had to be performed in order most likely). Then state what you worked on. Identify the problems that you and your team ran into. What did you learn about the challenge of doing software development on a team? (**20 points**).