

Taking an Exam on BlueBook

Portions of this handout adapted from handouts by Chris Piech, Nick Troccoli, Julia Daniel, Colin Kincaid and Annie Hu

This quarter in CS 106A, your exams will be administered on a digital examination platform called *BlueBook*, which was designed and built by Stanford CS 106 Section Leaders and Lecturers specifically for the CS 106 classes. BlueBook has delivered thousands of exams to students in the CS 106 series over the last two years and the course staff is excited to be able to use it for our offering of CS 106A this quarter as well. The purpose of this handout is to introduce you to the process of taking exams on BlueBook. Our goal is for this experience to be as smooth and pleasant as it can be, so please take a moment to go through this information and familiarize yourself with it.

The Rationale Behind Digital Exams

Electronic exams hold several advantages. For students, writing code on a computer (with syntax highlighting, undo, cut, etc) is a much easier exam experience than writing solutions out by hand. The way in which you are assessed is much closer to the way in which you program. The logistics become much easier for students with disability accommodations and students who are taking the course from off campus. On our end, it makes it a lot easier to make, distribute and grade exams. Instead of using the 16,000 pages of paper that CS106A typically consumes each year we use 0. Finally, grading hand written exams is hard and inaccurate. Hand written exams allow for bias in teachers' grading and are inaccurate because we can't run your programs. Your exam will still be assessed by a human, but they will be better equipped to understand what you were trying to do.

Great it's on a computer! Why can't I run my program? In a time-restricted situation, immediate feedback from the compiler can be more of an impediment than an advantage. Imagine this, you read the first problem, have a good idea how to solve it, write your solution, and trace its operation and feel good. You compile and test it. Suppose it exhibits a bug—even though it may only be a minor issue, you can see your answer is wrong—so you hunker down and rework and retest until perfect... even if it takes the whole exam. Bad deal – since you never got to the other problems on the exam! We want you to write your best answer and move on.

We know that BlueBook is not the same as working with a compiler as you do in Eclipse, and we account for that in how we design and grade the exam. We are assessing your ability to think logically and use appropriate problem-solving techniques. We expect you to express yourself in reasonably correct Java, but we will be lenient with errors that are syntactic rather than conceptual.

Installing BlueBook

BlueBook itself does not come with any exams but is rather just an application used to take exams. You can download an installer file for BlueBook from the CS 106A course website, under the 'Resources' tab.

Note: We provide versions of BlueBook for both macOS and Windows operating systems. If you have a laptop that does not have one of these operating systems or you are unable to install applications on your laptop for any reason (for instance, it is a work or borrowed laptop), please contact Brahm.

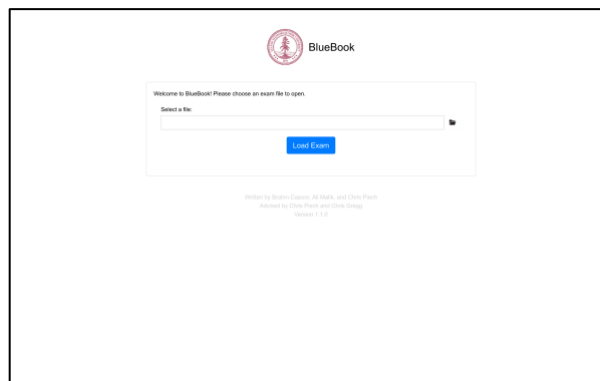
Once you have downloaded the installer file, install BlueBook wherever you wish on your computer. If you're using a Mac and you get an error saying that the Disk Image is from an unidentified developer, don't panic! Simply open up the installer file in your finder, and right click it and select "Open." The same window will pop up, but this time you'll have a chance to open it anyway. On Windows, if you get a message that says, "Windows protected your PC," you can click on "More info" and then "Run anyway."

Downloading Exams

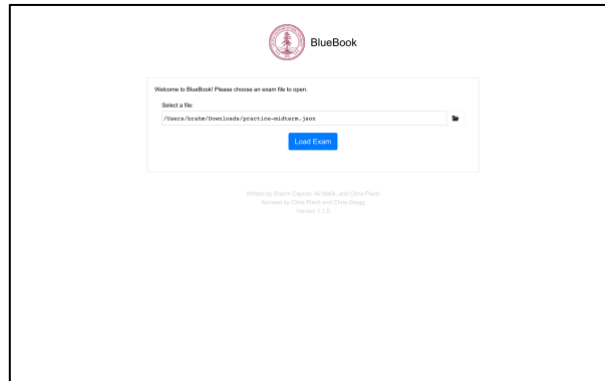
Your exams will be distributed as .json files which your course staff will upload to the course website prior to the exam. These exam files are encrypted and cannot be opened without a password, which will be provided to you at the start of the exam. Download these .json files and keep them wherever you wish on your computer.

Using BlueBook

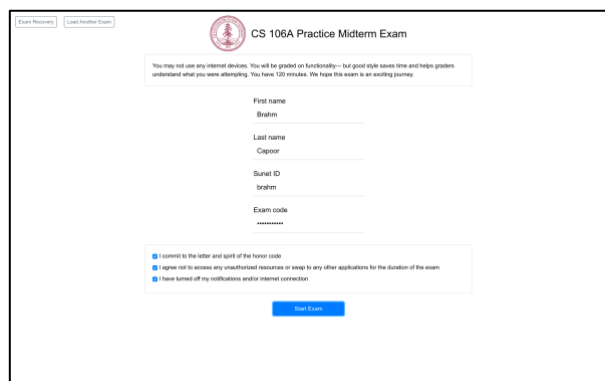
Once you have BlueBook installed and an exam downloaded comes what we'll optimistically refer to as the fun part: taking the exam! Begin by opening BlueBook. On a Mac, if you get a message saying that you were blocked from opening the app for security reasons, browse to the app in your finder, and right click it and select "Open." The same window will pop up, but this time you'll have a chance to open it anyway. The app should go full screen and open to a screen that looks like this:



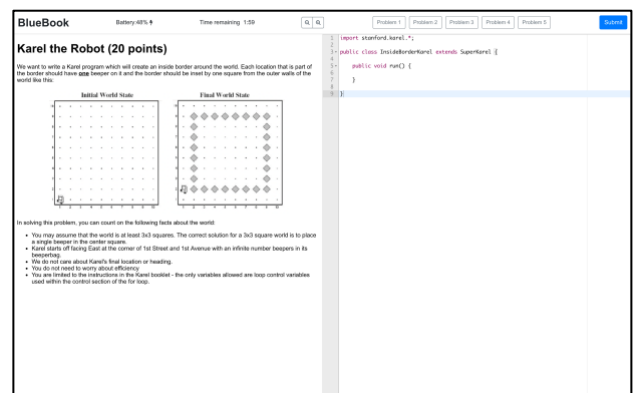
This screen allows you to choose the exam file you downloaded earlier. Click the folder icon on the right of the screen and navigate to the .json file and click ‘ok’, followed by ‘Load Exam’.



At this point, you’ll be brought to the Exam Start Screen. Fill out your details on this screen and once the password has been announced, fill that out too and click ‘Start Exam’.

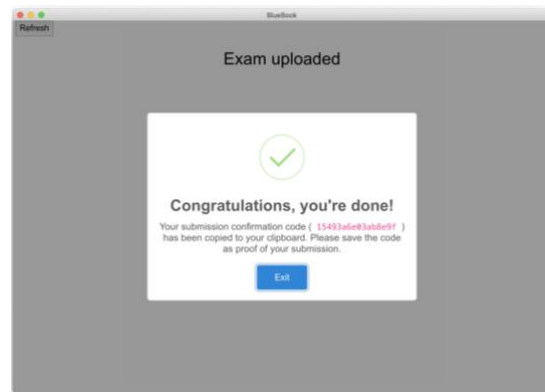
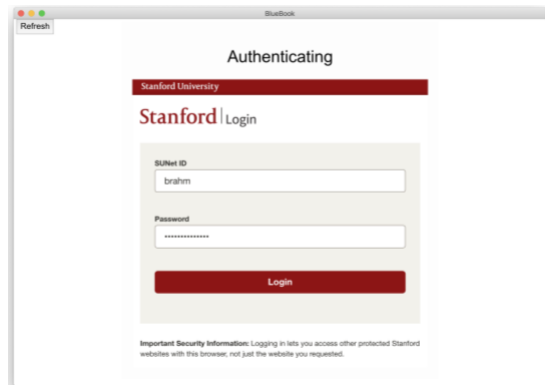
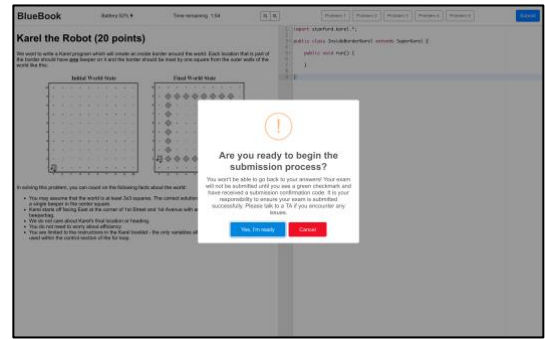


You’ll then be brought to the main Exam View, which allows you to go back and forth between all the questions for the duration of the exam. You can navigate between questions using the toolbar at the top of the window. The text editor provided to you will have syntax highlighting, bracket completion and automatic indenting, but will not allow you to compile your code. The exam will end automatically after the specified duration ends.



Submitting your exam

When you are done with your exam – or time has run out – you can begin the submission process for the exam. Do so by clicking the blue ‘Submit’ button in the toolbar. **Beginning submission is an irreversible decision**, so make sure that you’re confident you’re ready to turn your answers in. Once you confirm that you want to submit, the BlueBook window will shrink and allow you to turn on your internet in order to submit the exam. Importantly, we verify your identity whilst submitting, so please make sure to have your **two-step authentication device** with you. Once your submission is successful, you will see a message with a green check mark and a confirmation code of your exam submission, which you should keep for your records in case any issues arise later. At this point, feel free to close BlueBook. Congratulations! You’re done with the exam!



Some final notes

- Please make sure that your laptop has at least a few gigabytes of free space before the exam begins. While BlueBook exams certainly don't take up that much space, we do back up your answers in case your computer crashes and it would be unfortunate if your computer did not have space for these backups
- Please come to the exam with a fully charged laptop. While there will be some facilities to charge your laptops during the exam, there will likely not be enough for everyone.
- BlueBook is capable of detecting if you switch away from the window during the examination. In order to avoid this signal being triggered accidentally, **please disable your internet connection and/or notifications** before the exam begins. You will have the opportunity to turn them back on when the time comes to submit.
- Should your laptop crash during the exam, please see a TA as soon as possible so they can restore your answers and you can continue working. **Do not attempt to restart the exam from scratch as this might overwrite your previous answers.**