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Introduction

For this first lab, we would like to discuss three important topics for you to succeed in this class.

1. How to access the material and navigate our resources,
2. What to read first,
3. How to get help.

As you may have noted, the list of topics was already included a first time below the title; we generally try to include a table of contents and summary, along with numerous links, to make our guides easy to navigate.

Navigating our Resources

We strive to provide to our students all the material they will need to succeed in one place, at <https://princomp.github.io/>. On this website, you will find:

- “The book”¹, which contains the lecture notes to cover one semester and is available in pdf² (for printing, typically) and in odt³/docx⁴ (for editing, typically; docx included for Microsoft Word compatibility). Along with the html version⁵ (i.e., the website), this gives four convenient ways of accessing the content of this course.
- Slides⁶, accompany the lecture notes (in pptx and pdf).
- The labs⁷, which are (most of the time) tied to particular lectures and contains hands-on practice exercise as well as instructions on how to use computers to complete this class.
- Along with other useful documents⁸ about programming, this resource, or studying at the School of Cyber and Computer Sciences

¹<https://princomp.github.io/book.html>

²<https://princomp.github.io/book.pdf>

³<https://princomp.github.io/book.odt>

⁴<https://princomp.github.io/book.docx>

⁵<https://princomp.github.io/book.html>

⁶<https://princomp.github.io/lectures/slides>

⁷<https://princomp.github.io/labs/>

⁸<https://princomp.github.io/docs/>

at Augusta University⁹.

The main purpose of this first lab is to help you navigate those resources. We want this reading to be proactive, so we will include questions and actions like the ones below every now and then to help you be engaged with the material.

? Question

We used five different file formats in the text above you may not be familiar with. Along with *markdown* (md), that's six; can you make sure you know them all and know their purposes? Looking them up on wikipedia¹⁰ and reading the first paragraph of each of their pages can be a good way of getting started!

⇒ Action ←

On the `html` version of our documents (so, on the website), you will always find near the title, at the top of the page, the "Alternative formats". Those are links to the `pdf`, `odt`, `docx` and `md` versions of the document you are currently reading. Download them by clicking on the "pdf", "odt", "docx" and "md" links, then make sure you can open them all. You should realize that their content is identical to the page you are currently reading!¹¹

You may also have seen the Credits¹² and Source¹³ links in the footer; the first one contains information about the authors, copyrights, and tools used to construct this website, and the second will give you access to the "frame" we are using to construct all of these resources. Even if you do not need to understand the source code and details of the implementation of these resources (which uses, as you may have guessed ... `markdown`!), being curious about them may be extremely useful for the sake of learning, if you want to become an Undergraduate (or Graduate) Course Assistant (UCA)¹⁴, are interested in contributing to open-source projects, or simply wonder how the magic is done!

⁹<https://www.augusta.edu/ccs/>

¹⁰https://www.wikiwand.com/en/List_of_file_formats

¹¹Even this sentence will be displayed, even if it makes no sense to discuss the links in the footer of a `pdf` file, which does not have them!

¹²<https://princomp.github.io/docs/about/credits>

¹³<https://github.com/princomp/princomp.github.io>

¹⁴https://princomp.github.io/docs/academic_life/ca

What to Read First

Your instructor(s) will be your primary guide when it comes to the order in which you need to read the material hosted here. However, you should feel free to explore our documentations¹⁵ that contain information you may be interested in fairly early in the semester (like...today!). Typically, the Installing Software¹⁶ page should probably be one of the first documents you read; it explains in detail how to set-up your computer to be able to execute, compile, and study the code we will be discussing in class and lab and how to access and use the computer labs.

⇒ Action ←

Reading instructions is not always easy. You should try to always understand what is crucial, what is important, and what is optional. Although you may have overlooked that subtlety, the previous paragraph actually meant

Go read Installing Software¹⁷ as soon as possible; you want to be ready for the next lab!

This is particularly true for labs asking for you to set things up; there is little to gain in postponing that step, and if you are facing difficulties, it is better to ask earlier rather than later! |

Some of the resources on this website are still in flux. The instructors are working hard to construct the material from scratch, and we are sorry if at times you feel that you are going through dry runs. On the flip side, remember that you did not have to buy a textbook and that these resources will be tailored for your use and course of study here at Augusta University. Among many other specificity, like using C#, we are making sure that security and other cyber-related issues are regularly discussed!

You should also remember that the internet is (also!) a wonderful place where many useful resources are shared. For instance, this guide on open source¹⁸ is an excellent place to understand what open source is and why it matters. Our resources are supported by Affordable Learning Georgia, which strives to share good, accessible, and free (as in “free coffee” and as in “free speech”) Open Educational Resources (OER) to students in Georgia, and reading their “About”¹⁹ page may help you understand the importance and benefits of developing resources here, for you!

¹⁵<https://princomp.github.io/docs/>

¹⁶https://princomp.github.io/docs/programming_and_computer_usage/installing_software

¹⁷https://princomp.github.io/docs/programming_and_computer_usage/installing_software

¹⁸<https://opensource.guide/>

¹⁹<https://www.affordablelearninggeorgia.org/about-us/missions-values/>

? Questions

What exactly is implied by “free” as in “free coffee” *and* as in “free speech”?

Try to understand what “free software”²⁰ means; is it like coffee (some people say “beer”) or like speech?

Are the resources presented here free as in coffee, as in speech, or both? And what about your computer’s operating system? Your media player?

Try to look at the licenses of some of the software you use on a daily basis. You may realize that some important software products are actually open source and host their code on e.g., github!

Elements of solution

- “Free” as in “free coffee” means that you are welcome to use the resource without paying for it. It means “at no monetary cost” (gratis). “Free” as in “free speech” relates to liberty. It means “with little or no restriction” (libre).

- A free software is free as in speech: per the FSF²¹,

Free software is software that gives you the user the freedom to share, study, and modify it. We call this free software because the user is free.

This means that a free software can come at a cost (it is not necessarily “gratis”), but once it is paid for, you can use it in any way you like: edit it, improve it, copy it, and in some cases redistribute it.

- The resources presented here are free as in coffee *and* speech.
- If your computer is running Windows²² or macOS²³, then it is mostly proprietary (read: not free). Android²⁴ is mostly free, and Linux²⁵ distributions are in general completely free.
- For your media player, you should check yourself! One excellent media player released under a free license is VLC²⁶!

²⁰https://www.wikiwand.com/en/Free_software

²¹<https://www.fsf.org/about/what-is-free-software>

²²<https://www.microsoft.com/en-us/licensing/product-licensing/windows>

²³<https://www.apple.com/legal/sla/>

²⁴[https://www.wikiwand.com/en/Android_\(operating_system\)#Licensing](https://www.wikiwand.com/en/Android_(operating_system)#Licensing)

²⁵<https://www.wikiwand.com/en/Linux#Development>

²⁶<http://www.videolan.org/>

How to Get Help

This may be the most important aspect of this lab; understanding when to get help, and how to obtain it, is critical in succeeding in your studies (be it in this class or other classes!). Your instructor(s) should be your first point of contact for any question regarding the content of this class, but many other resources are available through the University, through this class, or through clubs. Also, understanding *how* to ask is extremely important.

All of that is discussed on this page²⁷.

⇒ Action ←

Read the How to get Help²⁸ page.

⇒ Action ←

If you feel like it, create an account on Github²⁹ and leave a comment! We'll be happy to read from you!

⇒ Action ←

You may have noticed that multiple links point to <https://www.wikihow.com/>. Can you check if *the content* and *the software platform* of wikihow are free (as in coffee or speech)?

²⁷https://princomp.github.io/docs/academic_life/getting_help

²⁸https://princomp.github.io/docs/academic_life/getting_help

²⁹<https://github.com/login>