Fall 2023 SSW-345 Homework

by

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This document provides the requirements and design details of Homework. The following table (Table 1) should be updated by authors whenever changes are made to the architecture design or new components are added.

Table 1: Document Update History

Date	**Updates**
09/07/2023	BCK: • Created document from template. • Added the team chapter (Chapter 1).
09/12/2023	BCK: • Created new chapter for initial homework assignment (Chapter 2).
09/17/2023	BCK: • Created new chapter for second homework assignment (Chapter 3). • Completed the four sections of the second homework assignment.

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Chapter 1

Team

– Benjamin Knobloch

1.1 About Ben

Ben Knobloch is a student of Software Engineering in his Junior year at Stevens Institute of Technology. He is a student tutor on campus, as well as the News Editor for the campus paper and secretary for the Stevens Honor Board and Engineers Without Borders SIT. In his free time, he enjoys reading and playing board games with his friends.

Chapter 2

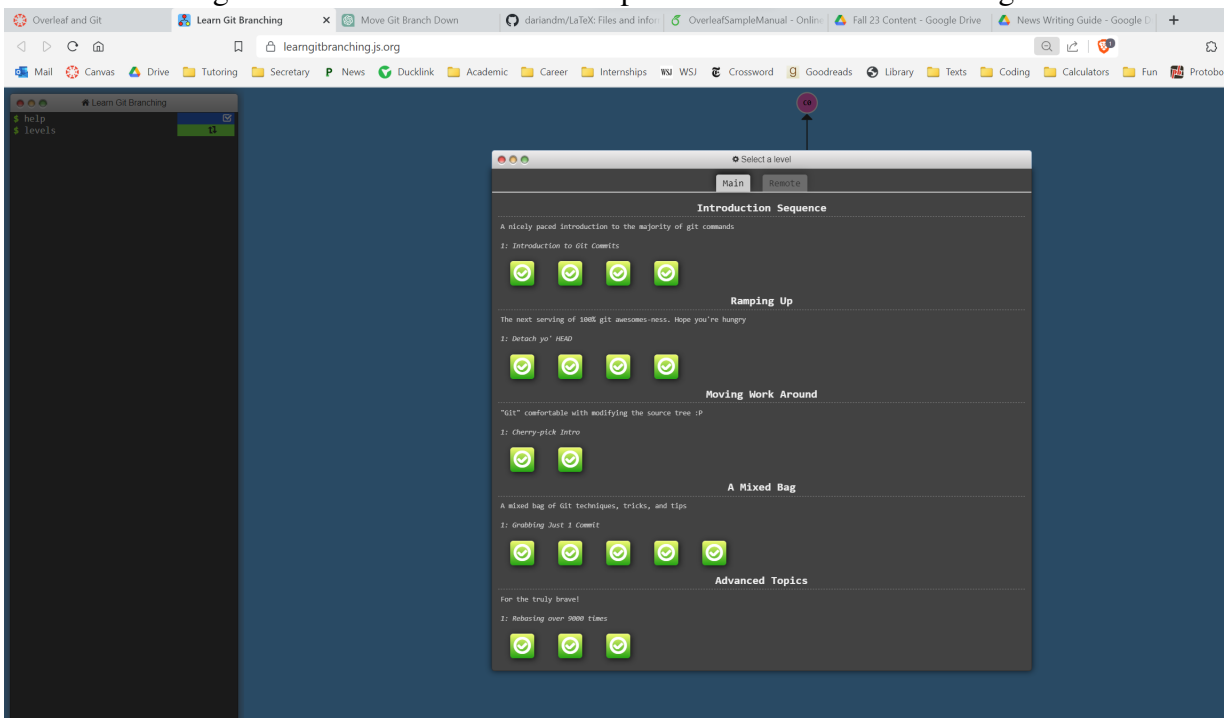
Learning Git

2.1 Assignment Description

I completed an interactive online course communicating the basics of using Git on the command line. Then, I set up my GitHub repository (”repo”) for this course and created an issue that acts as my initial to-do list.

2.2 Completed Course Screenshot

Figure 2.1: Screenshot of the completed set of basic Git challenges



2.3 Creating a GitHub Issue

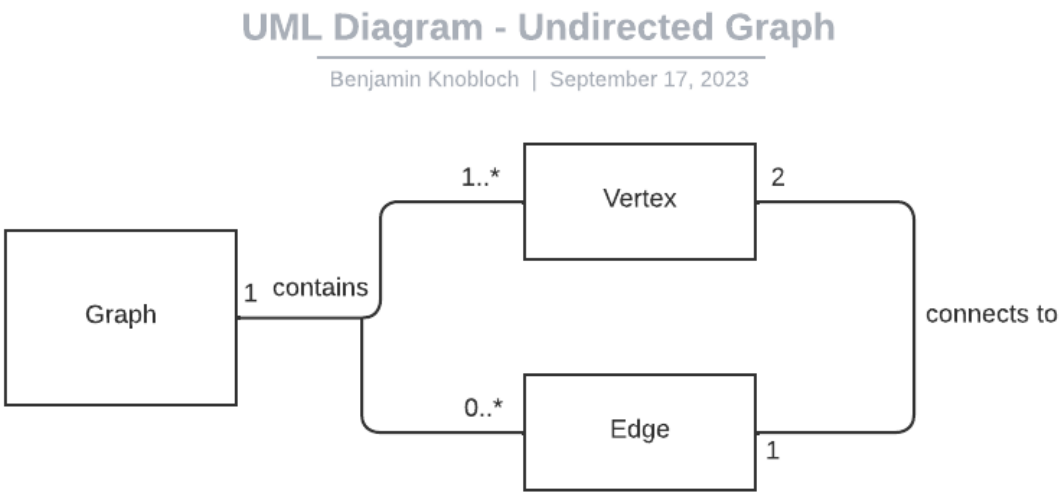
Here is the link to my repo, which contains both a copy of this document as a PDF and the screenshot of the Learning Git page.

Chapter 3

UML Class Modeling

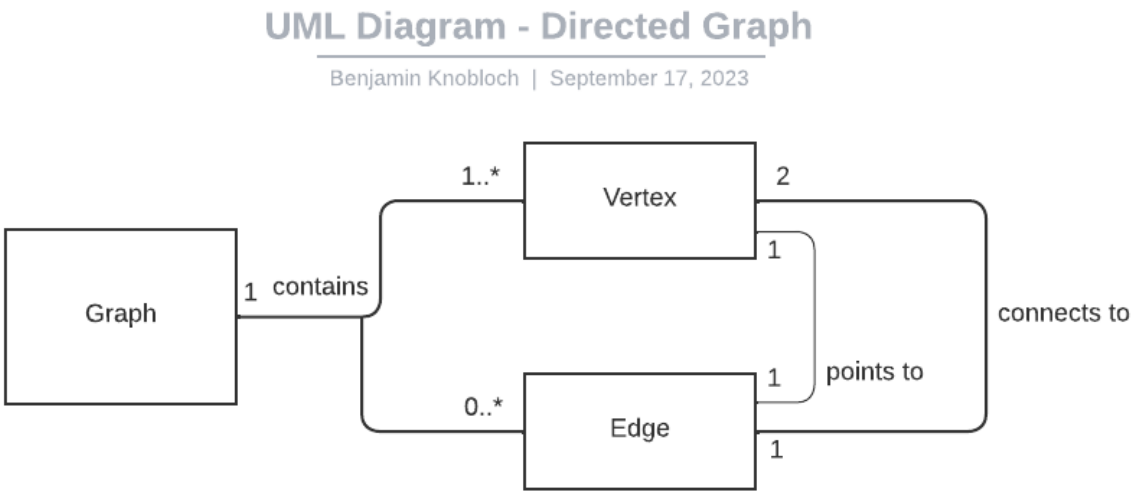
3.1 Exercise 1

Figure 3.1: Undirected Graph - UML Class Diagram



3.2 Exercise 2

Figure 3.2: Directed Graph - UML Class Diagram



3.3 Exercise 3

A window can come in the form of a scrolling window, a canvas, or a panel. Scrolling windows can also be text windows or scrolling canvases, the latter of which are also canvases. A single canvas can be associated with any number of shape elements. Shapes can be a line or a closed shape, and closed shapes can be either a polygon or an ellipse. A polygon contains any number of ordered points as vertices. A panel is associated with zero or one panel item, any number of which can be tied to an event as a notify event. Panel items can come in the form of buttons, choice items, or text items (any number of which can be tied to an event as a keyboard event). A choice item can be associated with any number of choice entries, and a subset of this relationship is that zero or one choice items can be associated with the current choice.

3.4 Exercise 4

Any number of customers can be the account holder for any number of mailing addresses. Each mailing address can be tied to any number of credit card accounts. Meanwhile, an institution has an account number that is associated with a credit card account, if it exists. Each credit card account, qualified by a statement date, is tied to a statement if it exists, which is tied by a transaction number to a transaction if it exists. Transactions can come in the form of cash advances, interest, purchases, fees, or adjustments. Any number of purchases is associated with a merchant.

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