

CSCI 3901 Winter 2021

Lab 5: Version Control

Name: Dhrumil Rakesh Shah

- **No Team Member (Doing Solo)**

Part 1 - History

1. How many commits are there?
 - a. There are **9 commits**
2. What is the commit message associated with the most recent commit?
 - a. **“Whoops, forgot to ignore class files”** is the message associated with most recent commit
3. Which commit added the basePrices static variable?
 - a. The 3rd commit **“commit b590e9d454004f89a1af65c09295ea4c0f896171”** added the 2d array – basePrices[][]
4. How many branches are there?
 - a. There are **2 branches** - The original one is **master** & other is **coupons** (**3 branches** if we consider the remote branches as well)
5. Which is the last commit on the coupons branch?
 - a. The **“commit 67ba33edfb465babbbae8d1cbe43cb4c78583cfe”** is the last commit on coupons branch which adds the coupons feature with message “Added coupon feature”

The final output of git log after Parts 2 & 3 have been completed:

```
MINGW64/d:/Files/MACS Dalhousie University/Winter 2021 Term/Software Development Concepts - CSCI 3901 - 01/10th Feb/Lab/HfxDonairExpress
shahd@DESKTOP-GMLJQR8 MINGW64 /d:/Files/MACS Dalhousie University/Winter 2021 Term/Software Development Concepts - CSCI 3901 - 01/10th Feb/Lab/HfxDonairExpress
(master)
$ git log
commit b7ad3ed07e20b4b9d9f51569b509cd2031df4a68 (HEAD -> master, burger)
Author: Dhrumil Rakesh Shah <Dhrumil.Shah@dal.ca>
Date: Fri Feb 12 12:00:49 2021 +0530

    Added burger to the menu

commit ba3f78b569478bc6214429cdf1fdc2230bb6f2e5
Author: Dhrumil Rakesh Shah <Dhrumil.Shah@dal.ca>
Date: Fri Feb 12 11:52:59 2021 +0530

    Modified the discount calculation logic

commit 5f36367554b30eddf6f26f7d1932183b113660f8
Author: Dhrumil Rakesh Shah <Dhrumil.Shah@dal.ca>
Date: Fri Feb 12 11:51:29 2021 +0530

    Modified the price calculation logic for toppings

commit 1dcffcb8f10a4a7a36c9d5ed4b7c8c489c8a9392
Author: Dhrumil Rakesh Shah <Dhrumil.Shah@dal.ca>
Date: Fri Feb 12 11:49:52 2021 +0530

    Modified the string comparisions for toppings

commit 12e89aaa89bc6fec5195fbb6d161257a3bf9d7a1 (origin/master)
Author: Matt Amy <matt.e.amy@gmail.com>
Date: Mon Feb 8 22:22:11 2021 -0400

    Whoops, forgot to ignore class files

commit 7d9c8c67d30a83451c8f8b506193b1222b4227f6
Author: Matt Amy <matt.e.amy@gmail.com>
Date: Mon Feb 8 22:21:11 2021 -0400

    Modified coupon calculation
```

```
MINGW64/d:/Files/MACS Dalhousie University/Winter 2021 Term/Software Development Concepts - CSCI 3901 - 01/10th Feb/Lab/HfxDonairExpress
shahd@DESKTOP-GMLJ3R8 MINGW64 /d:/Files/MACS Dalhousie University/Winter 2021 Term/Software Development Concepts - CSCI 3901 - 01/10th Feb/Lab/HfxDonairExpress (master)
$ git log --oneline
b7ad3ed (HEAD -> master, burger) Added burger to the menu
ba3f78b Modified the discount calculation logic
5f36367 Modified the price calculation logic for toppings
1dcffcb Modified the string comparisons for toppings
12e89aa (origin/master) Whoops, forgot to ignore class files
7d9c8c6 Modified coupon calculation
0e58596 Merge branch 'coupons'
67ba33e (coupons) Added coupon feature
b97a7ab Bugfix - case statement falls through
9f2ec80 Added ability to purchase toppings
b590e9d Factored prices into an array
ae22dfe Basic functionality working
5e6d1a8 Initial commit
```

Questions:

1. When working alone on a project, how frequently should you commit your code to a version control system? Explain why.
 - a. It is a good practice to commit the changes either small/big that work or which tests fine, like anytime I complete a “full thought” of code that compiles & runs. This usually ends up being anywhere between 15-60 minutes. Sometimes it could be longer, but I always try to commit if I have a lot of code changes that I wouldn't want to rewrite in case of failure. I wouldn't worry about making "too many" commits. It really sucks when you have to rewrite something, and it's nice to be able to rollback in small increments just in case.
2. When working in a team, how frequently should you commit your code to a version control system? Explain why.
 - a. When working in a team, it is recommended to either commit small changes made with robust testing or even to club multiple changes in a single commit if & only if the testing is done exhaustively eliminating majority of the bugs. Because working in a team there are many people working & committing their work (causing conflicts at times), so it is best to co-ordinate & also commenting properly as anyone could understand what commits have been made.
3. Why might you create branches for your project in your version control system?
 - a. The concept of branching is one of the most important part of version control system as it lets us create a working copy of the existing branch. This allows us to work on the new branch without affecting the main functionality of the code. We could work on any bug fixes of the main system on the new branch & once it is all tested & verified, the new branch could be merged with the original(master) branch. So for example in the Lab 5 assignment, I created a new branch Burger which is an addition to the already existing functionality of HfxDonairExpress. The new functionality is then added & committed to the burger branch which is then merged with the main master branch.