**CS1 – Data and Variables Lab Possible points: 100**

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**Data and Variables Lab**

Write a C++ program that displays some ASCII arts on to the Console/Terminal or standard output.

**Lab Instructions**

1. Setup GitHub account if not done already; follow instructions under HW0 in D2L
2. Open your repo folder (CS1-…) in Visual Studio Code
3. Create a folder called **ascii** inside labs folder
   1. Inside ascii folder, create a new cpp file called main.cpp
4. Add main.cpp file to git repo then commit and push it
5. Run git **add, commit and push** as often as possible after every major improvement or addition to your program so you are familiar with the commands and you’ve a working backup
6. Type the code stub from main.cpp file in lab folder called variables as a starter program to complete the lab:
7. Use the provided Makefile in the variables folder to compile and build program
   1. Add a new rule to run the executable program (**10 points**)
8. Never copy paste code; you’ll not learn anything by taking the shortcut!
9. Type each line of code and use **incremental development** techniques to learn what the given code does and what happens when you add each line(s) of new code to complete your lab
10. Fix all the FIXMEs and write #fixed# at the end of each FIXME that’s fixed except at the end of your name and date
11. The completed lab should produce an output that looks like the following:

|\\_/| \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* (\\_/)

/ @ @ \ \* ASCII Lab \* (='.'=)

( > 0 < ) \* By: <Your name> \* ( " )\_( " )

>>x<< \* CSCI 111 \*

/ O \ \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

**Note:** The figure on the right (looks like a mouse) uses both single ( ' ) and double quotes ( " ) and you must find a way to print both single and double quotes as shown.

1. Create a screenshot of the completed program with the final output being displayed on the console and save it inside the same **ascii** folder. **(10 points)**
2. When done, update your README file **(10 points)** as shown here: <https://github.com/rambasnet/csci000-astudent>
3. All FIXMEs are worth equal points unless stated otherwise.

=====================================================================

**Submission:**

1. Add all the relevant source file(s) and documents into the correct folder and do a final add, commit, and push before the due date.
   1. $ git status
   2. $ git add <filename>… - add each file that was new or modified that is part of this assignment
   3. $ git commit -m “Final Submission”
   4. $ git push
   5. $ git status
2. Check and make sure the files are pushed to your GitHub repo.
3. NOTE: Do not add and commit to this lab folder after the due date as it may be considered late submission!