TASK 1

Create a folder named "EECS348_Lab3" in the desired location, either through the terminal or manually navigating to it. Initialize Git in the folder, as it will be used as the project location for the two C programs created in Eclipse IDE.

Steps:

- Open the terminal.
- Navigate to the desired directory using the **cd** command.
- Run the command **mkdir EECS348_Lab3** to create a new folder.
- Navigate to the EECS348_Lab3 folder using the **cd EECS348_Lab3** command.
- Create two folders named Cprogram1 and Cprogram2 using **mkdir** command.
- Verify that the folders have been created by running the command **ls**
- Run the command **git init** to initialize the Git repository in this EECS348_Lab3 folder.
- Verify that Git has been initialized by running the command **git status**
- Now, login to your GitHub account and create a new public repository similarly named EECS348_Lab3.

Note: All the files added to this EECS348_Lab3 folder location from Eclipse will be tracked by Git. So, once the files are added, you can commit and push the files to your GitHub repository. These steps would be similar to what you have done in Lab1.

TASK 2

For the first problem, create a new C project in Eclipse named Program1_yourName and push this project to your new GitHub repository.

Steps to create a new C Project in Eclipse:

- Launch Eclipse.
- In the main menu, select "File" -> "New" -> "C/C++ Project" -> “C Managed Build”.
- In the "New C Project" dialog box, enter "Program1_yourName" as the project name.
- Select "Project type" as "Executable" -> "Empty Project" and “Toolchain” as “MinGW GCC/Linux GCC”.
- In the "Location" field, click the "Browse" button and navigate to the "EECS348_Lab3" folder.
- Select the "EECS348_Lab3 -> Cprogram1" folder as the location for your project.
- Click "Finish" to create the new C project.
- Right click on your project -> New -> Source file-> Name the file as “Program1.c”
- Click "Finish" to create the new source file.
- In the newly created source file, write your C program.

Steps to build and run the C program in Eclipse:

- Right-click on the project in the project explorer and select "Build Project". This will compile the program and check for any syntax errors or issues.
- Right-click on the project Program1_yourName in the project explorer and select "Run As" -> "Local C/C++ Application".
- The program will run. If there are no errors, the output of the program will be displayed in the console window at the bottom of the Eclipse window.

Note: If your program contains syntax errors or other issues, Eclipse will indicate them in the "Problems" view, and you will need to correct them before building and running the program.

Steps to push this C program from the EECS348_Lab3 folder to your GitHub repository:

- Now go back to the terminal, as you have already initiated the Git repository for EECS348_Lab3. You can go ahead with adding and committing the changes.
- **git Status** command will show the status of the repository, as no files are added, it shows the project files as untracked.
- Add all the files in the "EECS348_Lab3" folder to the Git repository by the command **git add –all.**
- Commit the changes to the Git repository and add a commit message using the command **git commit -m "Commit of Program1_yourName"**
- As you might have already generated the ssh key in your previous lab. Connect your local Git repository to your new GitHub repository using SSH by executing the following command.
  git remote add origin git@github.com:your-github-username/your-repo-name.git
- Push the changes from your local Git repository to your GitHub repository by **git push -u origin master**
- Now your "Program1_yourName" C project has been pushed to your GitHub repository. Add a readme file in your GitHub repository with a screenshot of the Program1 output.

TASK 3

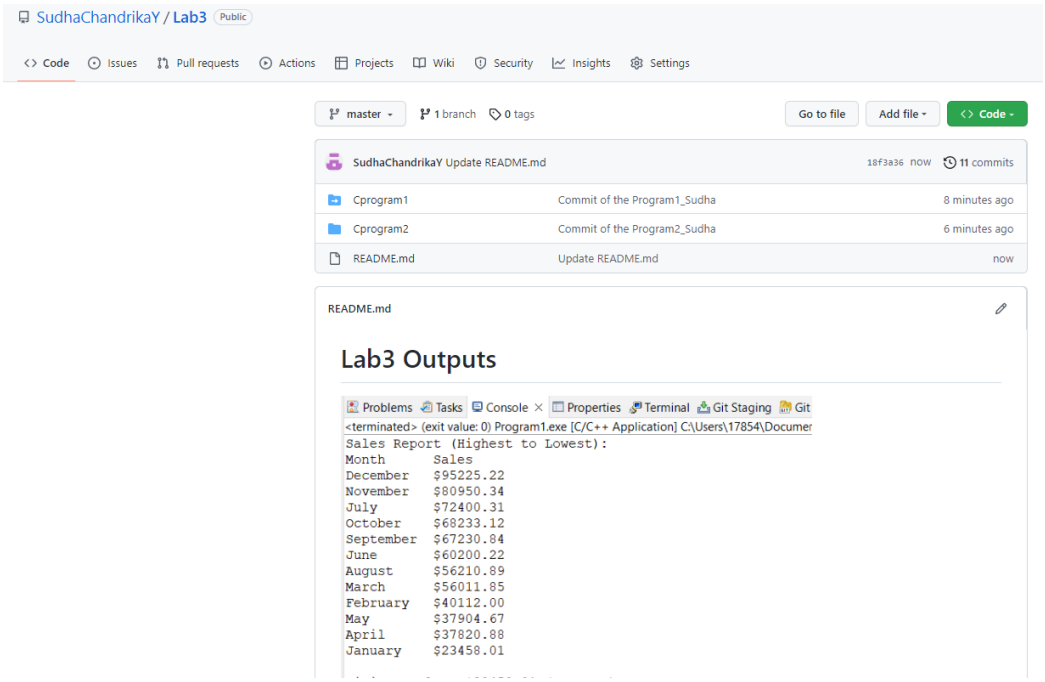
For the second problem, create a new C project in Eclipse named Program2_yourName and push this project to your new GitHub repository.

- Follow the same steps as mentioned for the TASK 1.
- Create the new C project, build, and run it in eclipse and then push you code from the local Git repository to GitHub repository.
- Finally, add this program's screen print as well to the Readme file in your GitHub repository.

SUBMISSIONS

Submit the link to your public EECS348_Lab3 GitHub repository with the Repository shown as below.

- You Repository must have the two C Programs committed from local Git Repository
- There must also be a Readme File with the screen prints showing the code outputs for both problems.



REFERENCES

For those who need to install the Eclipse, please refer to the below links.

https://www.eclipse.org/downloads/packages/ - to install the Eclipse IDE for C/C++ specifically.

https://winlibs.com/#download-release – to install MinGW-w64.

Once these are installed you need to extract the MinGW-w64 zip file and add the bin folder path in it to the path environment variables of your device.

Note:

MinGW-w64 is a free and open-source software development environment for Windows. It stands for "Minimalist GNU for Windows" and provides a Windows port of the GCC (GNU Compiler Collection) tools, including the C and C++ compilers. MinGW-w64 is designed to support both 32-bit and 64-bit Windows platforms.