Lab Assignment 9 (02/16/2023)

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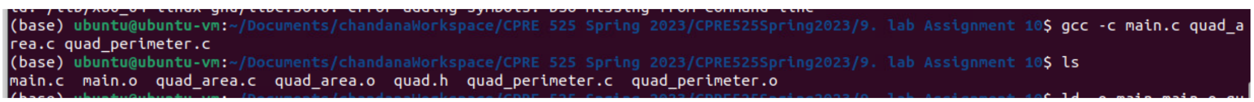
Tasks:

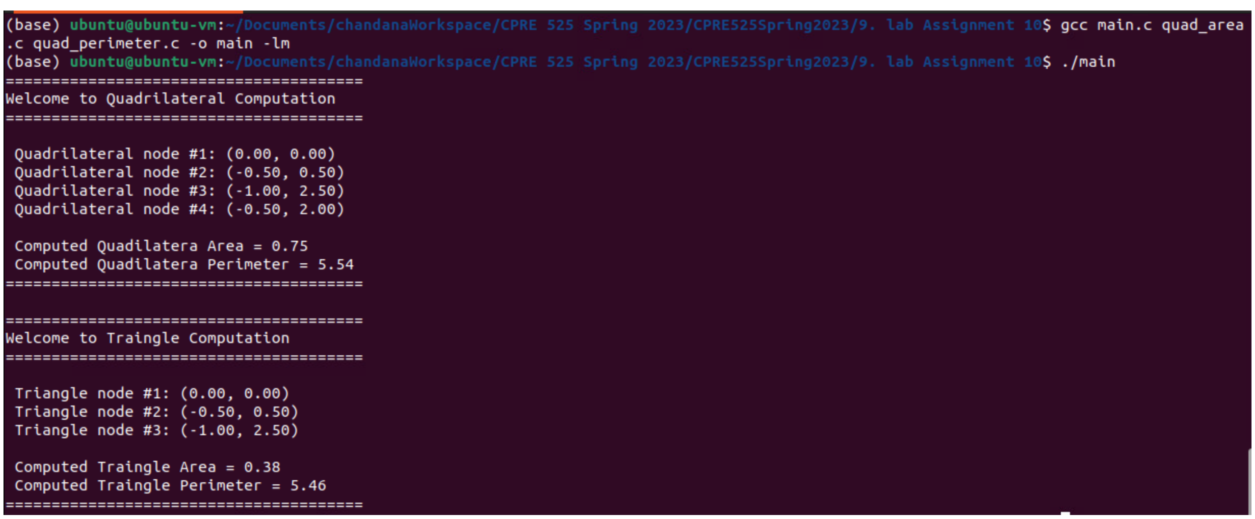
1. Develop source code main.c(with main()) for computing the area and perimeter of an input quadrilateral, use/declare struct in a header file, define functions for computing area and perimeter in separated files(quad_perimeter.c and quad_area.c). and then call them in main().
   1. Try compiling multiple files together into a single executable(main.exe)
   2.try compile multiple files to objects(*.o) and link them to single executable (main.exe)
2. Push the code to GitHub.
3. File transfer and Up-to-date in Nova cluster

Submission Files and Results:

1. Screenshot for area and perimeter of an input quadrilateral (also included triangle computation that was discussed in the class)



```
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE525Spring2023/9. lab Assignment 10$ gcc -c main.c quad_a
rea.c quad_perimeter.c
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE525Spring2023/9. lab Assignment 10$ ls
main.c  main.o  quad_area.c  quad_area.o  quad.h  quad_perimeter.c  quad_perimeter.o
```



```
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE525Spring2023/9. lab Assignment 10$ gcc main.c quad_area
.c quad_perimeter.c -o main -lm
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE525Spring2023/9. lab Assignment 10$ ./main
=======================================
Welcome to Quadrilateral Computation
=======================================

 Quadrilateral node #1: (0.00, 0.00)
 Quadrilateral node #2: (-0.50, 0.50)
 Quadrilateral node #3: (-1.00, 2.50)
 Quadrilateral node #4: (-0.50, 2.00)

 Computed Quadilatera Area = 0.75
 Computed Quadilatera Perimeter = 5.54
=======================================

=======================================
Welcome to Traingle Computation
=======================================

 Triangle node #1: (0.00, 0.00)
 Triangle node #2: (-0.50, 0.50)
 Triangle node #3: (-1.00, 2.50)

 Computed Traingle Area = 0.38
 Computed Traingle Perimeter = 5.46
=======================================
```

2. Push the code to GitHub
   a. Git status check

```
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE525Spring2023$ git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        8. Lab Assignment 9/8. Lab Assignment 9 Submission.pdf
        9. lab Assignment 10/

nothing added to commit but untracked files present (use "git add" to track)
```

b. Git add and git status

```
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE525Spring2023$ git add .
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE525Spring2023$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   8. Lab Assignment 9/8. Lab Assignment 9 Submission.pdf
        new file:   9. lab Assignment 10/main
        new file:   9. lab Assignment 10/main.c
        new file:   9. lab Assignment 10/quad.h
        new file:   9. lab Assignment 10/quad_area.c
        new file:   9. lab Assignment 10/quad_perimeter.c
```

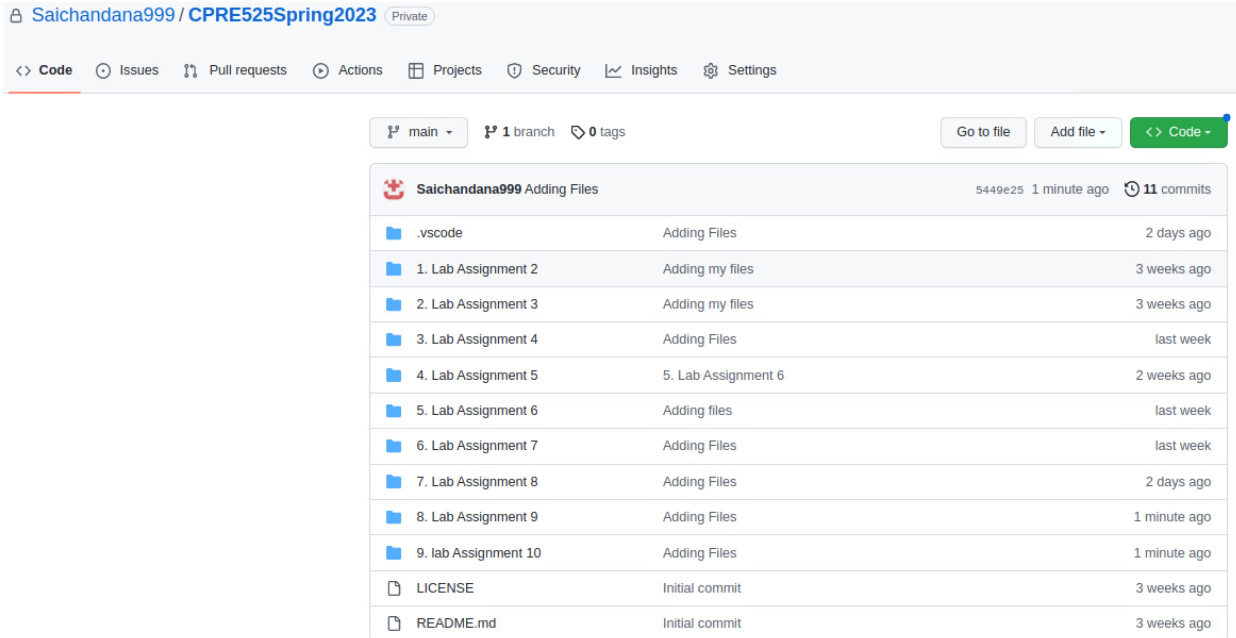
c. Git committed the files

```
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE525Spring2023$ git commit -m "Adding Files"
[main 5449e25] Adding Files
 6 files changed, 189 insertions(+)
 create mode 100644 8. Lab Assignment 9/8. Lab Assignment 9 Submission.pdf
 create mode 100755 9. lab Assignment 10/main
 create mode 100644 9. lab Assignment 10/main.c
 create mode 100644 9. lab Assignment 10/quad.h
 create mode 100644 9. lab Assignment 10/quad_area.c
 create mode 100644 9. lab Assignment 10/quad_perimeter.c
```

d. Git push

```
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE525Spring2023$ git push
Username for 'https://github.com': Saichandana999
Password for 'https://Saichandana999@github.com':
Enumerating objects: 12, done.
Counting objects: 100% (12/12), done.
Delta compression using up to 8 threads
Compressing objects: 100% (10/10), done.
Writing objects: 100% (10/10), 1.99 MiB | 5.22 MiB/s, done.
Total 10 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/Saichandana999/CPRE525Spring2023.git
   634a314..5449e25  main -> main
```

e. Final GitHub repository



3. Files transferred and up-to-date in Nova cluster.

```
[vsc@nova ~]$ tree
.
└── CPRE525Spring2023
    ├── 1. Lab Assignment 2
    │   ├── 1. Lab Assignment 2 Screen Shots for both 2 and 3 steps.pdf
    │   ├── demo_myfuncs.py
    │   └── myfuncs.py
    ├── 2. Lab Assignment 3
    │   ├── 2. Lab Assignment 3 Screen Shots.pdf
    │   └── demo_pythonlist.py
    ├── 3. Lab Assignment 4
    │   ├── 3. Lab Assignment 4 Submission.pdf
    │   ├── demo_myfuncs.py
    │   ├── myfuncs.py
    │   └── __pycache__
    │       └── myfuncs.cpython-39.pyc
    ├── 4. Lab Assignment 5
    │   ├── 4. Lab Assignment 5 Submission.pdf
    │   ├── guass_elimination_solve.py
    │   └── practice_numpyLinearAlgebra.py
    ├── 5. Lab Assignment 6
    │   ├── 5. Lab Assignment 6 Submission.pdf
    │   ├── gauss_elimination_cpre525.py
    │   ├── mylinalg.py
    │   └── __pycache__
    │       └── gauss_elimination_cpre525.cpython-310.pyc
    │
```

```
    ├── 6. Lab Assignment 7
    │   ├── 6. Lab Assignment 7 Submission.pdf
    │   ├── Factorial
    │   └── Factorial.c
    ├── 7. Lab Assignment 8
    │   ├── 7. Lab Assignment 8 Submission.pdf
    │   ├── data.txt
    │   ├── lab8
    │   └── lab8.c
    ├── 8. Lab Assignment 9
    │   ├── 8. Lab Assignment 9 Submission.pdf
    │   ├── Chebyshev
    │   ├── Chebyshev.c
    │   ├── MontyHall
    │   ├── MontyHall.c
    │   ├── MontyHallGeneric
    │   ├── MontyHallGeneric.c
    │   ├── PlotPoly.py
    │   ├── polydata.txt
    │   ├── polynomial.png
    │   └── polynomia.png
    ├── 9. lab Assignment 10
    │   ├── main
    │   ├── main.c
    │   ├── main.o
    │   ├── quad_area.c
    │   ├── quad_area.o
    │   ├── quad.h
    │   ├── quad_perimeter.c
    │   └── quad_perimeter.o
    ├── LICENSE
    └── README.md

12 directories, 44 files
```