Tasks:

1. Develop a program for linked lists(using letters instead of numerics).Use Makefile.Submit source codes and screenshot.
2. Push the code to GitHub.
3. File transfer and Up-to-date in Nova cluster

Submission Files and Results:

1. Screenshot for a program for linked lists(using letters instead of numerics)

```
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE5
25Spring2023/10. lab Assignment 11$ make
gcc -O3 -Wall -c GetKey.c
gcc -O3 -Wall -c SearchList.c
gcc  main.o GetNumberOfNodes.o GenerateList.o Print.o GetKey.o SearchList.o Dele
teList.o -o main.exe
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE5
25Spring2023/10. lab Assignment 11$ ./main.exe

 Enter the number of nodes: 5
  88  72  69  87  72


 ------------------------------------------
 |Pos:|Char:|    Address:     |    Next:    |
 ------------------------------------------
 |  1 |H| 0x55743b962b40 | 0x55743b962b20 |
 |  2 |W| 0x55743b962b20 | 0x55743b962b00 |
 |  3 |E| 0x55743b962b00 | 0x55743b962ae0 |
 |  4 |H| 0x55743b962ae0 | 0x55743b962ac0 |
 |  5 |X| 0x55743b962ac0 |        (nil) |
 ------------------------------------------


 ------------------------------------------
 |Pos:|Char:|    Address:     |    Next:    |
 ------------------------------------------
 |  5 |X| 0x55743b962ac0 |        (nil) |
 |  4 |H| 0x55743b962ae0 | 0x55743b962ac0 |
 |  3 |E| 0x55743b962b00 | 0x55743b962ae0 |
 |  2 |W| 0x55743b962b20 | 0x55743b962b00 |
 |  1 |H| 0x55743b962b40 | 0x55743b962b20 |
 ------------------------------------------

Enter a character: H
 Key found at Position: 1
 Key found at Position: 4
```

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

```
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE5
25Spring2023$ 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)
        10. lab Assignment 11/
        9. lab Assignment 10/9. Lab Assignment 10 Submission.pdf

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/CPRE5
25Spring2023$ git add .
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE5
25Spring2023$ 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:   10. lab Assignment 11/DeleteList.c
        new file:   10. lab Assignment 11/DeleteList.o
        new file:   10. lab Assignment 11/GenerateList.c
        new file:   10. lab Assignment 11/GenerateList.o
        new file:   10. lab Assignment 11/GetKey.c
        new file:   10. lab Assignment 11/GetKey.o
        new file:   10. lab Assignment 11/GetNumberOfNodes.c
        new file:   10. lab Assignment 11/GetNumberOfNodes.o
        new file:   10. lab Assignment 11/Makefile
        new file:   10. lab Assignment 11/Print.c
        new file:   10. lab Assignment 11/Print.o
        new file:   10. lab Assignment 11/SearchList.c
        new file:   10. lab Assignment 11/SearchList.o
        new file:   10. lab Assignment 11/main.c
        new file:   10. lab Assignment 11/main.exe
        new file:   10. lab Assignment 11/main.o
        new file:   10. lab Assignment 11/node.h
        new file:   9. lab Assignment 10/9. Lab Assignment 10 Submission.pdf
```

   c. Git committed the files

```
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE5
25Spring2023$ git commit -m "Adding Files"
[main 0516eae] Adding Files
 18 files changed, 230 insertions(+)
 create mode 100644 10. lab Assignment 11/DeleteList.c
 create mode 100644 10. lab Assignment 11/DeleteList.o
 create mode 100644 10. lab Assignment 11/GenerateList.c
 create mode 100644 10. lab Assignment 11/GenerateList.o
 create mode 100644 10. lab Assignment 11/GetKey.c
 create mode 100644 10. lab Assignment 11/GetKey.o
 create mode 100644 10. lab Assignment 11/GetNumberOfNodes.c
 create mode 100644 10. lab Assignment 11/GetNumberOfNodes.o
 create mode 100644 10. lab Assignment 11/Makefile
 create mode 100644 10. lab Assignment 11/Print.c
 create mode 100644 10. lab Assignment 11/Print.o
 create mode 100644 10. lab Assignment 11/SearchList.c
 create mode 100644 10. lab Assignment 11/SearchList.o
 create mode 100644 10. lab Assignment 11/main.c
 create mode 100755 10. lab Assignment 11/main.exe
 create mode 100644 10. lab Assignment 11/main.o
 create mode 100644 10. lab Assignment 11/node.h
 create mode 100644 9. lab Assignment 10/9. Lab Assignment 10 Submission.pdf
```

d. Git push

```
(base) ubuntu@ubuntu-vm:~/Documents/chandanaWorkspace/CPRE 525 Spring 2023/CPRE5
25Spring2023$ git push
Username for 'https://github.com': Saichandana999
Password for 'https://Saichandana999@github.com':
Enumerating objects: 24, done.
Counting objects: 100% (24/24), done.
Delta compression using up to 8 threads
Compressing objects: 100% (22/22), done.
Writing objects: 100% (22/22), 575.67 KiB | 13.71 MiB/s, done.
Total 22 (delta 7), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (7/7), completed with 2 local objects.
To https://github.com/Saichandana999/CPRE525Spring2023.git
   7840c93..0516eae  main -> main
```

e. Final GitHub repository

Saichandana999 / **CPRE525Spring2023** Private

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ⵢ main ⵢ 1 branch ⬡ 0 tags   Go to file   Add file ▾   <> Code ▾

🐙 **Saichandana999** Adding Files   0516eae 1 minute ago ⟳ **13** commits

📁 .vscode	Adding Files	last week
📁 1. Lab Assignment 2	Adding my files	last month
📁 10. lab Assignment 11	Adding Files	1 minute ago
📁 2. Lab Assignment 3	Adding my files	last month
📁 3. Lab Assignment 4	Adding Files	2 weeks ago
📁 4. Lab Assignment 5	5. Lab Assignment 6	3 weeks ago
📁 5. Lab Assignment 6	Adding files	2 weeks ago
📁 6. Lab Assignment 7	Adding Files	2 weeks ago
📁 7. Lab Assignment 8	Adding Files	last week
📁 8. Lab Assignment 9	Adding Files	4 days ago
📁 9. lab Assignment 10	Adding Files	1 minute ago
📄 LICENSE	Initial commit	last month
📄 README.md	Initial commit	last month

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

```
[vsc@nova ~]$ tree
.
└── CPRE525Spring2023
    ├── 10. lab Assignment 11
    │   ├── DeleteList.c
    │   ├── DeleteList.o
    │   ├── GenerateList.c
    │   ├── GenerateList.o
    │   ├── GetKey.c
    │   ├── GetKey.o
    │   ├── GetNumberOfNodes.c
    │   ├── GetNumberOfNodes.o
    │   ├── main.c
    │   ├── main.exe
    │   ├── main.o
    │   ├── Makefile
    │   ├── node.h
    │   ├── Print.c
    │   ├── Print.o
    │   ├── SearchList.c
    │   └── SearchList.o
    ├── 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
        │   ├── 9. Lab Assignment 10 Submission.pdf
        │   ├── main
        │   ├── main.c
        │   ├── main.o
        │   ├── quad_area.c
        │   ├── quad_area.o
        │   ├── quad.h
        │   ├── quad_perimeter.c
        │   └── quad_perimeter.o
        ├── LICENSE
        └── README.md

13 directories, 62 files
```