ASSIGNMENT 9

Q. Write a program that scans a file line by line, splits each input line into fields later, compares input line/fields to pattern and performs action(s) on matched lines:

→ Step1: write a calculator.c program

```
#include <stdio.h>
#include <math.h>
void calculate(double a, char op, double b) {
    double result;
    switch (op) {
        case '+': result = a + b; break;
        case '-': result = a - b; break;
        case '*': result = a * b; break;
        case '/':
     if (b != 0)
        result = a / b;
    else {
       printf("Error: Division by zero\n");
        return;
    }
    break;
  case '^': result = pow(a, b); break;
    default:
        printf("Error: Invalid operator\n");
    return;
   }
  printf("Result: %.2lf\n", result);
}

int main() {
   double num1, num2;
```

```
    char operator;
    printf("Enter an expression (e.g., 2 ^ 3): ");
    scanf("%lf %c %lf", &num1, &operator, &num2);
    calculate(num1, operator, num2);
    return 0;
}
```

Step 2: Initialize the git Repo

Navigate to the folder where your calculator program is located and initialize Git.

Step 3: Add commit

Commit the changes

Step 4: Check for status and diff

Before making any changes, check the current status of your repository.

```
Asus@MrugankshaK MINGW64 ~/Documents/sem4
$ cd dtl

Asus@MrugankshaK MINGW64 ~/Documents/sem4/dtl
$ git init
Initialized empty Git repository in C:/Users/Asus/Documents/sem4/dtl/.git/

Asus@MrugankshaK MINGW64 ~/Documents/sem4/dtl (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        calculator.c

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

Asus@MrugankshaK MINGW64 ~/Documents/sem4/dtl (master)
$ git add .

Asus@MrugankshaK MINGW64 ~/Documents/sem4/dtl (master)
$ git commit -m "added 8th assignment"
[master (root-commit) a64f7bf] added 8th assignment
 1 file changed, 36 insertions(+)
 create mode 100644 calculator.c
```

```
Asus@MrugankshaK MINGW64 ~/Documents/sem4/dtl (master)
$ git status
On branch master
nothing to commit, working tree clean

Asus@MrugankshaK MINGW64 ~/Documents/sem4/dtl (master)
$ git log --oneline
a64f7bf (HEAD -> master) added 8th assignment
```

To add the repository to github:

- **Create a New Repository on GitHub**

1. Go to GitHub and create a new repository.
2. Copy the repository URL

```
Asus@MrugankshaK MINGW64 ~/Documents/sem4/dtl (master)
$ git remote add origin https://github.com/Mruganksha/DTL-Lab.git

Asus@MrugankshaK MINGW64 ~/Documents/sem4/dtl (master)
$ git remote -v
origin  https://github.com/Mruganksha/DTL-Lab.git (fetch)
origin  https://github.com/Mruganksha/DTL-Lab.git (push)

Asus@MrugankshaK MINGW64 ~/Documents/sem4/dtl (master)
$ git branch
* master

Asus@MrugankshaK MINGW64 ~/Documents/sem4/dtl (master)
$ git push origin master
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 569 bytes | 569.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Mruganksha/DTL-Lab.git
 * [new branch]      master -> master
```

Conclusion:

We successfully modified the calculator program to support exponentiation and demonstrated Git commands like git add, commit, status, and diff. This workflow ensures version control, allowing for easy tracking of modifications and collaboration.