Experiment 1:
Demonstrate use of git commands to push and pull 3 html files from Github account.

https://chat.openai.com/share/1dfd8076-b6f5-4ee6-8d56-369060865a52

Files to be created:
index.html
about.html
contact.html

After pushing, code to change in index.html:

```
<!DOCTYPE html>
<html>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

MINGW64:/c/Users/sarve/Desktop/DevOps/Prac-1

```
sarve@Vegapunk MINGW64 ~
$ git --version
git version 2.44.0.windows.1

sarve@Vegapunk MINGW64 ~
$ git config --global user.name "Sarvesh-2103"

sarve@Vegapunk MINGW64 ~
$ git config --global user.email "sar.mha1.rt21@dypatil.edu"

sarve@Vegapunk MINGW64 ~
$ git config --global user.name
Sarvesh-2103

sarve@Vegapunk MINGW64 ~
$ git config --global user.email
sar.mha1.rt21@dypatil.edu

sarve@Vegapunk MINGW64 ~
$ cd "C:\Users\sarve\Desktop\DevOps"

sarve@Vegapunk MINGW64 ~/Desktop/DevOps
$ git clone "https://github.com/Sarvesh-2103/Prac-1.git"
Cloning into 'Prac-1'...
warning: You appear to have cloned an empty repository.

sarve@Vegapunk MINGW64 ~/Desktop/DevOps
$ cd Prac-1

sarve@Vegapunk MINGW64 ~/Desktop/DevOps/Prac-1 (main)
$ git add index.html about.html contact.html

sarve@Vegapunk MINGW64 ~/Desktop/DevOps/Prac-1 (main)
$ git commit -m "Initial commit"
[main (root-commit) c2988ac] Initial commit
 3 files changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 about.html
 create mode 100644 contact.html
 create mode 100644 index.html

sarve@Vegapunk MINGW64 ~/Desktop/DevOps/Prac-1 (main)
$ git push origin main
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Delta compression using up to 16 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 241 bytes | 241.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Sarvesh-2103/Prac-1.git
 * [new branch]      main -> main

sarve@Vegapunk MINGW64 ~/Desktop/DevOps/Prac-1 (main)
$ git pull origin main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), 920 bytes | 230.00 KiB/s, done.
From https://github.com/Sarvesh-2103/Prac-1
 * branch            main       -> FETCH_HEAD
   c2988ac..be2cbf4  main       -> origin/main
Updating c2988ac..be2cbf4
Fast-forward
 index.html | 1 +
 1 file changed, 1 insertion(+)
```

Experiment 2:
Demonstrate Building java program (addition of 2 numbers) through Jenkins.

https://chat.openai.com/share/0f86002e-89c0-4054-82a3-1d459830d54d

File name: add.java
Code:

```
public class add {
    public static void main(String[] args) {
        int number1 = 5; // You can change these numbers
        int number2 = 3; // You can change these numbers
        int sum = number1 + number2;
        System.out.println("Sum: " + sum);
    }
}
```

Code to run in jenkins:

```
javac add.java
java add
```

Experiment 3:
Demonstrate Continuous Integration process in Jenkins. Build a java program every 2 minutes (addition of two numbers) residing in Github repository.

https://chat.openai.com/share/c9806fea-c1c9-4cbf-b7f7-1941d846dc6d

File name: add.java
Code:

```
public class add {
    public static void main(String[] args) {
        int number1 = 5; // You can change these numbers
        int number2 = 3; // You can change these numbers
        int sum = number1 + number2;
        System.out.println("Sum: " + sum);
    }
}
```

In the Schedule box, enter `H/2 * * * *` to poll the repository every 2 minutes.

Under Source Code Management, where you entered the repository URL, change the branch specifier from */master to */main.

Code to run in jenkins:

```
javac add.java
java add
```

Experiment 4:
Demonstrate Continuous Integration process in Jenkins. Build a java program every 2 minutes (addition of two numbers) residing in Github repository.

https://chat.openai.com/share/ca666849-1df8-4712-b188-d557a8ddc448

Files to be created:

index.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Home Page</title>
</head>
<body>
    <h1>Welcome to My Website</h1>
    <p>This is the home page. You can find more information on other pages.</p>
</body>
</html>
```

about.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>About Us</title>
</head>
<body>
    <h1>About Us</h1>
    <p>This page tells you about our website and the services we offer.</p>
</body>
</html>
```

contact.html:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Contact Us</title>
</head>
<body>
    <h1>Contact Us</h1>
    <p>Here you can find how to reach us:</p>
</body>
</html>
```

Pipelining code:

```
pipeline {
    agent any

    stages {
        stage('Clone Repository') {
            steps {
                git branch: 'main', url: 'your repo link here' // Replace with your actual GitHub repository URL
            }
        }

        stage('Deploy to XAMPP') {
            steps {
                script {
                    // Assuming XAMPP is installed at C:\xampp\htdocs on a Windows server
                    bat "xcopy /Y /I /E /F /C *.html C:\\xampp\\htdocs\\"
                }
            }
        }
    }
}
```

Experiment 5:
Demonstrate CI/CD in Jenkins. Consider 3 html files in Github repository and write a declarative pipeline to deploy on Xampp server.

https://chat.openai.com/share/35b72747-995d-4e54-9d58-aa29b1fee659

Files to be created:

index.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Home Page</title>
</head>
<body>
    <h1>Welcome to My Website</h1>
    <p>This is the home page. You can find more information on other pages.</p>
</body>
</html>
```

about.html:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>About Us</title>
</head>
<body>
    <h1>About Us</h1>
    <p>This page tells you about our website and the services we offer.</p>
</body>
</html>
```

contact.html:

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Contact Us</title>
</head>
<body>
    <h1>Contact Us</h1>
    <p>Here you can find how to reach us:</p>
</body>
</html>
```

Pipelining Code:

```
pipeline {
    agent any

    stages {
        stage('Checkout') {
            steps {
                // Replace 'your repo link here' with your actual repository URL
                git branch: 'main', url: 'your repo link here'
            }
        }

        stage('Build') {
            steps {
                echo 'Building...'
            }
        }

        stage('Deploy') {
            steps {
                echo 'Deploying...'
                bat "xcopy /Y /I /E /F /C *.html C:\\xampp\\htdocs\\"
            }
        }
    }
}
```

Experiment 6:
Write a Selenium script to perform automated testing.

https://chat.openai.com/share/fe2a80d9-a2e5-440f-9822-caf9d75dcbd5

File name: main.py

Terminal: pip install selenium

Code:

```
from selenium import webdriver
from selenium.webdriver.common.by import By
from selenium.webdriver.common.keys import Keys
import time

chrome_options = webdriver.ChromeOptions()
chrome_options.add_experimental_option("detach", True)

driver = webdriver.Chrome(chrome_options)
driver.get(url="https://www.google.com/")

time.sleep(3)
search = driver.find_element(By.XPATH, value='//*[@id="APjFqb"]')
search.send_keys("What is Selenium?", Keys.ENTER)

time.sleep(3)
driver.quit()

print(“Selenium automated testing successful”)
```

Experiment 7:
Create an image of php project and push on Dockerhub repository.

https://chat.openai.com/share/4573ef5c-bce0-40eb-b7a2-1cb8ac3beb90

File Name: index.php
PHP Code:

```
<?php
echo "Hello, Docker!";
?>
```

File Name: dockerfile
dockerfile Code:

```
FROM php:7.4-apache
WORKDIR /var/www/html
COPY . /var/www/html
EXPOSE 80
```

Open terminal from your folder:

1st command:
docker build -t “your-folder-name” .

2nd command:
docker run -p 8090:80 -d “your-folder-name”

3rd command:
docker login

4th command:
docker tag “your-folder-name” “your-docker-username”/ “your-folder-name”:latest

5th command:
docker push “your-docker-username”/“your-folder-name”:latest

Experiment 8:
Demonstrate use of docker commands to pull ubuntu official image, create a file and push updated image on Dockerhub.

https://chat.openai.com/share/dccd02cb-871c-481e-938f-df0e490ec840

Open command prompt:

1st command:
docker login

2nd command:
docker pull ubuntu

3rd command:
docker run -it --name myubuntu ubuntu bash

(Above command will open docker terminal in command prompt only. So don't change anything, just keep pasting the commands in the correct order as I have given. ***Khud ka dimag maat lagao.***)

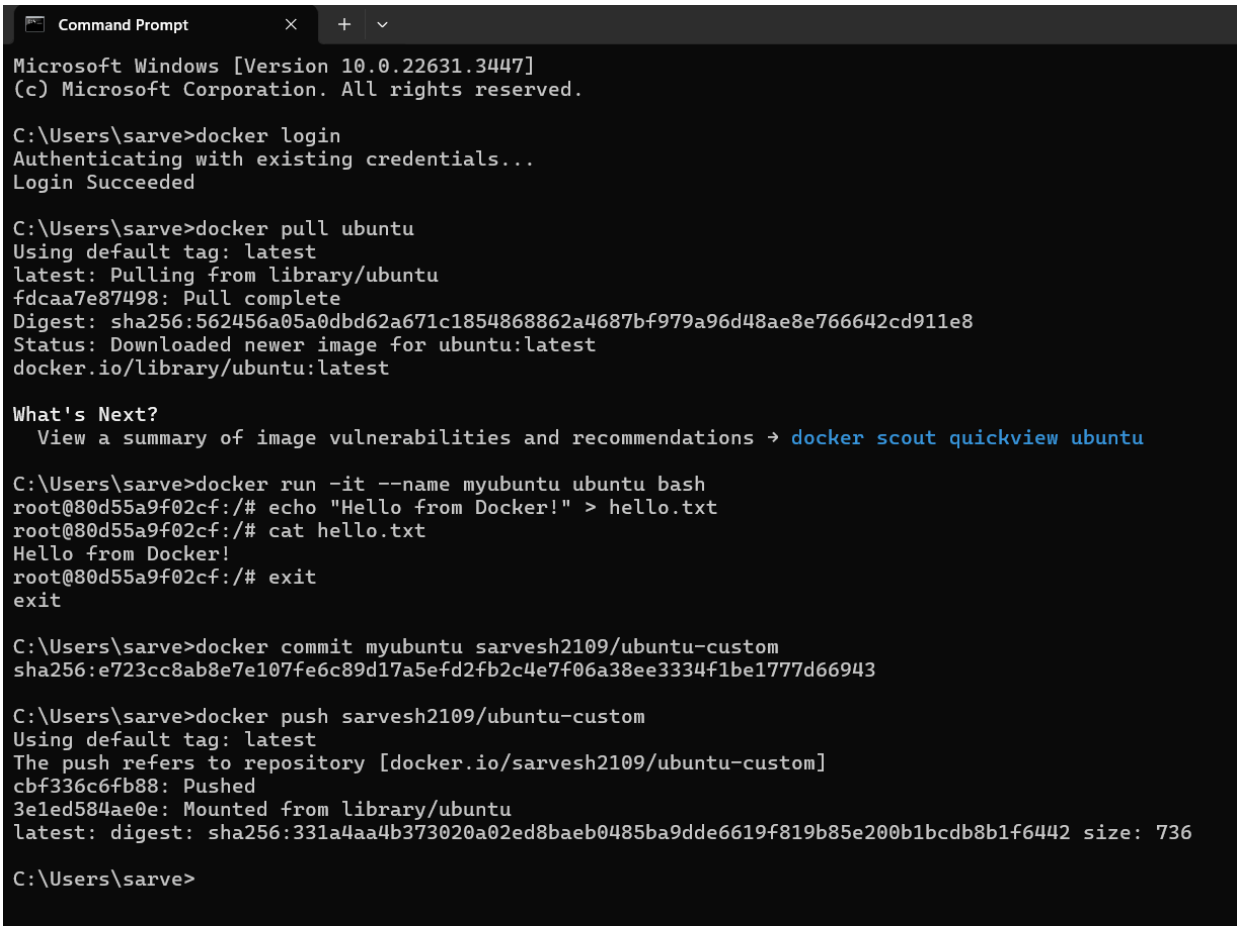
4th command:
echo "Hello from Docker!" > hello.txt

5th command:
cat hello.txt

6th command:
exit

7th command:
docker commit myubuntu "your-docker-username"/ubuntu-custom

8th command:
docker push "your-docker-username"/ubuntu-custom


Command Prompt
Microsoft Windows [Version 10.0.22631.3447]
(c) Microsoft Corporation. All rights reserved.
C:\Users\sarve>docker login
Authenticating with existing credentials...
Login Succeeded
C:\Users\sarve>docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
fdcaa7e87498: Pull complete
Digest: sha256:562456a05a0dbd62a671c1854868862a4687bf979a96d48ae8e766642cd911e8
Status: Downloaded newer image for ubuntu:latest
docker.io/library/ubuntu:latest
What's Next?
View a summary of image vulnerabilities and recommendations → docker scout quickview ubuntu
C:\Users\sarve>docker run -it --name myubuntu ubuntu bash
root@80d55a9f02cf:/# echo "Hello from Docker!" > hello.txt
root@80d55a9f02cf:/# cat hello.txt
Hello from Docker!
root@80d55a9f02cf:/# exit
exit
C:\Users\sarve>docker commit myubuntu sarvesh2109/ubuntu-custom
sha256:e723cc8ab8e7e107fe6c89d17a5efd2fb2c4e7f06a38ee3334f1be1777d66943
C:\Users\sarve>docker push sarvesh2109/ubuntu-custom
Using default tag: latest
The push refers to repository [docker.io/sarvesh2109/ubuntu-custom]
cbf336c6fb88: Pushed
3e1ed584ae0e: Mounted from library/ubuntu
latest: digest: sha256:331a4aa4b373020a02ed8baeb0485ba9dde6619f819b85e200b1bcdb8b1f6442 size: 736
C:\Users\sarve>