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PROBLEM 1 : Open Git bash shell and create a new folder "GitDemo" and initialize as git repository

```
sanjeev.n@PTPLL426 MINGW64 ~
$ cd desktop

sanjeev.n@PTPLL426 MINGW64 ~/desktop
$ cd GitDemo

sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo
$ git init
Initialized empty Git repository in C:/Users/sanjeev.n/Desktop/GitDemo/.git/
```

PROBLEM 2 : Git bash initializes the "GitDemo" repository.

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo
$ git init
Initialized empty Git repository in C:/Users/sanjeev.n/Desktop/GitDemo/.git/
```

PROBLEM 3 : Create a file "welcome.txt" and add content to the file (use echo or cat command)

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ echo "Welcome to Git Demo" > welcome.txt
```

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ cat > welcome.txt
Welcome to Git Demo File
```

PROBLEM 4 : To verify if the file "welcome.txt" is created, execute ls-al

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ ls -al
total 33
drwxr-xr-x 1 sanjeev.n 1049089  0 Jul 21 16:38 ./
drwxr-xr-x 1 sanjeev.n 1049089  0 Jul 21 16:35 ../
drwxr-xr-x 1 sanjeev.n 1049089  0 Jul 21 16:36 .git/
-rw-r--r-- 1 sanjeev.n 1049089 25 Jul 21 16:40 welcome.txt
```

PROBLEM 5 : To verify the content, execute the command cat filename

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ cat welcome.txt
Welcome to Git Demo File
```
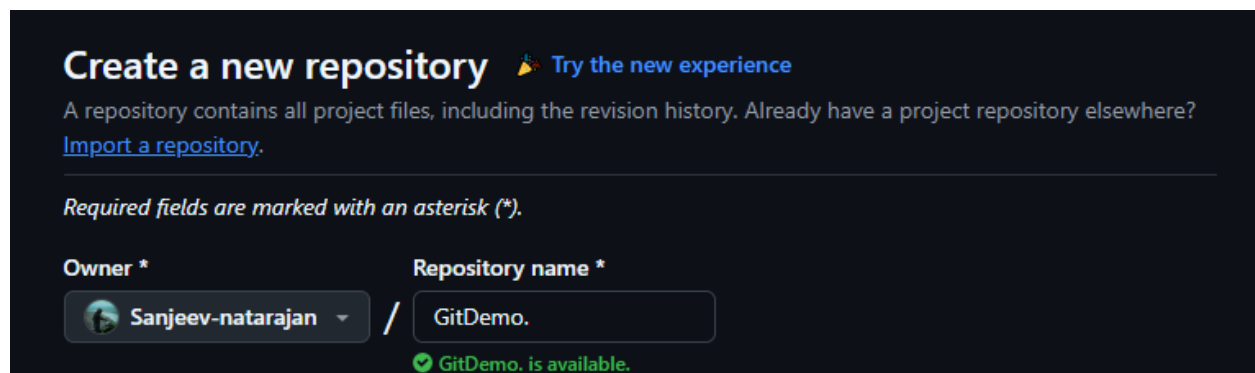
PROBLEM 6 : Execute git status

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ git status
On branch master

No commits yet

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

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

PROBLEM 7 : Signup with GitHub and create a remote repository "GitDemo"

Create a new repository 🎉 Try the new experience

A repository contains all project files, including the revision history. Already have a project repository elsewhere?
Import a repository.

Required fields are marked with an asterisk (*).

Owner *   Repository name *

🔵 **Sanjeev-natarajan** ▾ /   GitDemo.

✅ GitDemo. is available.

PROBLEM 8 : Add remote origin

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ git remote add origin https://github.com/Sanjeev-natarajan/GitDemo.git
```

PROBLEM 9 : Create files and and push the local to remote repository.

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ git add .
warning: in the working copy of 'welcome.txt', LF will be replaced by CRLF the next time Git touches it
```

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ git commit -m "Initial Commit"
[master (root-commit) 3419e80] Initial Commit
 1 file changed, 1 insertion(+)
 create mode 100644 welcome.txt
```

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ git push -u origin master
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 244 bytes | 122.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Sanjeev-natarajan/GitDemo.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
```

PROBLEM 10 : Make changes in the remote and pull the changes to the local.

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ git pull origin master
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 928 bytes | 46.00 KiB/s, done.
From https://github.com/Sanjeev-natarajan/GitDemo
 * branch            master      -> FETCH_HEAD
   3419e80..c24f37c  master      -> origin/master
Updating 3419e80..c24f37c
Fast-forward
 welcome.txt | 1 +
 1 file changed, 1 insertion(+)
```

PROBLEM 11 : Create a .gitignore file to ignore contents of temp folder

```
sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ mkdir temp

sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ echo "temp/" > .gitignore

sanjeev.n@PTPLL426 MINGW64 ~/desktop/GitDemo (master)
$ cat .gitignore
temp/
```

DOCKER

PROBLEM 1: What is the Docker-compose.yaml file? Give a sample docker-compose file.

It is a YAML configuration file used by Docker Compose.It defines multiple services (containers) that make up an application.You can start all the services together using a single command: docker-compose up.

EXAMPLE:

```
version: "3"

services:
  web:
    image: nginx:latest
    ports:
      - "8080:80"

  db:
    image: mysql:5.7
    environment:
      MYSQL_ROOT_PASSWORD: password
```

PROBLEM 2 : What Is Docker hub?

Docker Hub is a cloud-based registry service by Docker.It is used to store, share, and distribute Docker images. Developers can pull images to their local machine to build containers. Push images they built locally to Docker Hub for others to use.Use official images provided and maintained by vendors.

EXAMPLE : docker pull nginx