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Batch: T-13

Roll No: 68

Software Engineering and Project Management

EXPERIMENT – 3

AIM: To Perform various GIT operations on local and Remote repositories using GIT Cheat Sheet

THEORY:

Git is a distributed version control system (DVCS) that helps developers track and manage changes to their codebase over time. Git allows you to record the history of your code, revert to previous versions, and collaborate with other developers. Git is designed to handle everything from small to very large projects with speed and efficiency. It allows you to record the history of your code, revert to previous versions, and collaborate with other developers. Some of the basic git operations are: Initialize, Add, Commit, Pull, and Push.

- **Initialize:** Creates a new, empty Git repository in the specified directory.
- **Add:** Stages changes in the working directory to be included in the next commit.
- **Commit:** Saves the staged changes along with a descriptive message, creating a new point in the project's history.

- **Pull:** Fetches and integrates changes from a remote repository to the local repository.
- **Push:** Sends committed changes from the local repository to a remote repository.

OUTPUT:

```
15L@203-013 MINGW64 ~ (main)
$ git version
git version 2.39.1.windows.1

15L@203-013 MINGW64 ~ (main)
$ mkdir git_commands

15L@203-013 MINGW64 ~ (main)
$ cd git_commands
```

```
15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global user.name "TushitPalamkar"
warning: user.name has multiple values
error: cannot overwrite multiple values with a single value
      Use a regexp, --add or --replace-all to change user.name.

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global user.name "Tushitpalamkar"
warning: user.name has multiple values
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15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global user.name "tushitpalamkar"
warning: user.name has multiple values
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15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --list
user.email=sadhak.phanse@gmail.com
user.name=Sadhak
user.name=ProfessorX04
user.email=sadhakmp11@gmail.com

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global user.name "tushit"
warning: user.name has multiple values
error: cannot overwrite multiple values with a single value
      Use a regexp, --add or --replace-all to change user.name.

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --unset user.name
warning: user.name has multiple values

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --list
user.email=sadhak.phanse@gmail.com
user.name=Sadhak
user.name=ProfessorX04
user.email=sadhakmp11@gmail.com

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --replace-all user.name "TushitPalamkar"

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --list
user.email=sadhak.phanse@gmail.com
user.name=TushitPalamkar
user.email=sadhakmp11@gmail.com
```

```
15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global user.name "TushitPalamkar"
```

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15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --unset user.name
warning: user.name has multiple values

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --list
user.email=sadhak.phanse@gmail.com
user.name=Sadhak
user.name=ProfessorX04
user.email=sadhakmp11@gmail.com

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --replace-all user.name "TushitPalamkar"

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --list
user.email=sadhak.phanse@gmail.com
user.name=TushitPalamkar
user.email=sadhakmp11@gmail.com
```

```

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global user.email "tushit.palamkar@gmail.com"
warning: user.email has multiple values
error: cannot overwrite multiple values with a single value
Use a regexp, --add or --replace-all to change user.email.

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --replace-all user.email "tushit.palamkar@gmail.com"

15L@203-013 MINGW64 ~/git_commands (main)
$ git config --global --list
user.name=TushitPalamkar
user.email=tushit.palamkar@gmail.com

15L@203-013 MINGW64 ~/git_commands (main)
$ mkdir git-exp3

15L@203-013 MINGW64 ~/git_commands (main)
$ cd git-exp3

15L@203-013 MINGW64 ~/git_commands/git-exp3 (main)
$ git init
Initialized empty Git repository in C:/Users/15L/git_commands/git-exp3/.git/

15L@203-013 MINGW64 ~/git_commands/git-exp3 (master)
$ nano index.html

15L@203-013 MINGW64 ~/git_commands/git-exp3 (master)
$ git add index.html
warning: in the working copy of 'index.html', LF will be replaced by CRLF the next time Git touches it

15L@203-013 MINGW64 ~/git_commands/git-exp3 (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   index.html

15L@203-013 MINGW64 ~/git_commands/git-exp3 (master)
$ git commit -m "First Commit"
[master (root-commit) 21aafd2] First Commit
 1 file changed, 12 insertions(+)
 create mode 100644 index.html

15L@203-013 MINGW64 ~/git_commands/git-exp3 (master)
$ git status
On branch master
nothing to commit, working tree clean

```

```

15L@203-013 MINGW64 ~/git_commands/git-exp3 (master)
$ git log
commit 21aafd247513f869753e44c38ac805d0877d5377 (HEAD -> master)
Author: TushitPalamkar <tushit.palamkar@gmail.com>
Date:   Mon Feb 3 13:03:49 2025 +0530

    First Commit

15L@203-013 MINGW64 ~/git_commands/git-exp3 (master)
$ git remote add origin https://github.com/TushitPalamkar/SEPM_Tushit_69.git

15L@203-013 MINGW64 ~/git_commands/git-exp3 (master)
$ git remote show origin
* remote origin
  Fetch URL: https://github.com/TushitPalamkar/SEPM_Tushit_69.git
  Push URL:  https://github.com/TushitPalamkar/SEPM_Tushit_69.git
  HEAD branch: (unknown)

```

CONCLUSION: Thus, we have successfully studied and performed various GIT operations on local and Remote repositories using GIT Cheat-Sheet.