Q 1. Git Setup https://confluence.atlassian.com/bitbucket/set-up-git-744723531.html

```
(Reading database ... 123727 files and directories currently installed.)
Preparing to unpack .../xclip_0.12+svn84-4build1_amd64.deb ...
Unpacking xclip (0.12+svn84-4build1) ...
Setting up xclip (0.12+svn84-4build1) ...
Processing triggers for man-db (2.8.3-2) ...
ttn@ttn:~$ xclip -sel clip < ~/.ssh/id_rsa.pub
ttn@ttn:~$ sudo apt install git
[sudo] password for ttn:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  git-man liberror-perl
Suggested packages:
  git-daemon-run | git-daemon-sysvinit git-doc git-el git-email git-gui gitk
  gitweb git-cvs git-mediawiki git-svn
The following NEW packages will be installed:
  git git-man liberror-perl
0 upgraded, 3 newly installed, 0 to remove and 430 not upgraded.
Need to get 4,733 kB of archives.
After this operation, 33.9 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://in.archive.ubuntu.com/ubuntu bionic/main amd64 liberror-perl all 0.
17025-1 [22.8 kB]
Get:2 http://in.archive.ubuntu.com/ubuntu bionic-updates/main amd64 git-man all
```

Q 2. Initialize a Git Repository

```
                              ttn@ttn: ~/divya_ttn
 File  Edit  View  Search  Terminal  Help
ttn@ttn:~$ mkdir divya_ttn
ttn@ttn:~$ cd divya_ttn/
ttn@ttn:~/divya_ttn$ git init
Initialized empty Git repository in /home/ttn/divya_ttn/.git/
ttn@ttn:~/divya_ttn$ ls -al
total 12
drwxr-xr-x  3 ttn ttn 4096 Feb  5 17:25 .
drwxr-xr-x 20 ttn ttn 4096 Feb  5 17:24 ..
drwxr-xr-x  7 ttn ttn 4096 Feb  5 17:25 .git
ttn@ttn:~/divya_ttn$
```

Q. 3 Add files to the repository

```
ttn@ttn:~/divya_ttn$ touch file1.txt
ttn@ttn:~/divya_ttn$ touch file2.txt
ttn@ttn:~/divya_ttn$ ls -al
total 12
drwxr-xr-x  3 ttn ttn 4096 Feb  5 17:28 .
drwxr-xr-x 20 ttn ttn 4096 Feb  5 17:24 ..
-rw-r--r--  1 ttn ttn    0 Feb  5 17:28 file1.txt
-rw-r--r--  1 ttn ttn    0 Feb  5 17:28 file2.txt
drwxr-xr-x  7 ttn ttn 4096 Feb  5 17:25 .git
ttn@ttn:~/divya_ttn$ nano file1.txt
ttn@ttn:~/divya_ttn$ nano file2.txt
ttn@ttn:~/divya_ttn$ git status
On branch master

No commits yet

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

        file1.txt
        file2.txt

nothing added to commit but untracked files present (use "git add" to track)
ttn@ttn:~/divya_ttn$
```

Q 4. Unstage 1 file

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

        file1.txt
        file2.txt

nothing added to commit but untracked files present (use "git add" to track)
ttn@ttn:~/divya_ttn$ git add .
ttn@ttn:~/divya_ttn$ git status
On branch master

No commits yet

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

        new file:   file1.txt
        new file:   file2.txt

ttn@ttn:~/divya_ttn$ git reset file1.txt
ttn@ttn:~/divya_ttn$ git status
On branch master

No commits yet

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

        new file:   file2.txt

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

        file1.txt

ttn@ttn:~/divya_ttn$
```

Q 5. Commit the file

```
ttn@ttn:~/divya_ttn$ git commit -m "my first commit"
[master (root-commit) f3bf47d] my first commit
 1 file changed, 2 insertions(+)
 create mode 100644 file2.txt
ttn@ttn:~/divya_ttn$
```

Q . 6 Add a remote

```
ttn@ttn:~/divya_ttn$ git remote add origin git@github.com:divyaarora95/first_git
_repo.git
ttn@ttn:~/divya_ttn$ git remote -v
origin  git@github.com:divyaarora95/first_git_repo.git (fetch)
origin  git@github.com:divyaarora95/first_git_repo.git (push)
```

Q. 7 Undo changes to a particular file

```
ttn@ttn:~/divya_ttn$ cat file2.txt
this is second file

ttn@ttn:~/divya_ttn$ nano file2.txt
ttn@ttn:~/divya_ttn$ cat file2.txt
this is second file
changed
ttn@ttn:~/divya_ttn$ git checkout -- file2.txt
ttn@ttn:~/divya_ttn$ cat file2.txt
this is second file

ttn@ttn:~/divya_ttn$
```

Q 8. Push changes to Github

```
ttn@ttn:~/divya_ttn$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)

        file1.txt

nothing added to commit but untracked files present (use "git add" to track)
ttn@ttn:~/divya_ttn$ git add .
ttn@ttn:~/divya_ttn$ git commit
[master 69adb7d] my second commit
 1 file changed, 2 insertions(+)
 create mode 100644 file1.txt
ttn@ttn:~/divya_ttn$ git status
On branch master
nothing to commit, working tree clean
ttn@ttn:~/divya_ttn$ git push origin master
ssh: Could not resolve hostname github.com: Name or service not known
fatal: Could not read from remote repository.

Please make sure you have the correct access rights
and the repository exists.
ttn@ttn:~/divya_ttn$
```

Q 9. Clone the repository

```
ttn@ttn:~/divya_ttn$ cd ..
ttn@ttn:~$ mkdir divya_clone
ttn@ttn:~$ cd divya_clone/
ttn@ttn:~/divya_clone$ git clone git@github.com:divyaarora95/first_git_repo.git
Cloning into 'first_git_repo'...
Warning: Permanently added the RSA host key for IP address '192.30.253.112' to the list of known hosts.
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 6 (delta 0), reused 6 (delta 0), pack-reused 0
Receiving objects: 100% (6/6), done.
ttn@ttn:~/divya_clone$ ls -al
total 12
drwxr-xr-x  3 ttn ttn 4096 Feb  5 17:49 .
drwxr-xr-x 21 ttn ttn 4096 Feb  5 17:48 ..
drwxr-xr-x  3 ttn ttn 4096 Feb  5 17:49 first_git_repo
ttn@ttn:~/divya_clone$ cd first_git_repo/
ttn@ttn:~/divya_clone/first_git_repo$ ls -al
total 20
drwxr-xr-x 3 ttn ttn 4096 Feb  5 17:49 .
drwxr-xr-x 3 ttn ttn 4096 Feb  5 17:49 ..
-rw-r--r-- 1 ttn ttn   23 Feb  5 17:49 file1.txt
-rw-r--r-- 1 ttn ttn   21 Feb  5 17:49 file2.txt
drwxr-xr-x 8 ttn ttn 4096 Feb  5 17:49 .git
ttn@ttn:~/divya_clone/first_git_repo$
```

Q 10. Add changes to one of the copies and pull the changes in the other.

```
ttn@ttn:~/divya_ttn$ nano file1.txt
ttn@ttn:~/divya_ttn$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   file1.txt

no changes added to commit (use "git add" and/or "git commit -a")
ttn@ttn:~/divya_ttn$ git add .
ttn@ttn:~/divya_ttn$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        modified:   file1.txt

ttn@ttn:~/divya_ttn$ git commit -m "change file 1"
[master 6c23d48] change file 1
 1 file changed, 1 insertion(+)
ttn@ttn:~/divya_ttn$ git push origin master
Counting objects: 3, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 297 bytes | 297.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To github.com:divyaarora95/first_git_repo.git
   69adb7d..6c23d48  master -> master
ttn@ttn:~/divya_ttn$
```

```
ttn@ttn:~/divya_clone$ cd first_git_repo/
ttn@ttn:~/divya_clone/first_git_repo$ ls -al
total 20
drwxr-xr-x 3 ttn ttn 4096 Feb  5 17:49 .
drwxr-xr-x 3 ttn ttn 4096 Feb  5 17:49 ..
-rw-r--r-- 1 ttn ttn   23 Feb  5 17:49 file1.txt
-rw-r--r-- 1 ttn ttn   21 Feb  5 17:49 file2.txt
drwxr-xr-x 8 ttn ttn 4096 Feb  5 17:49 .git
ttn@ttn:~/divya_clone/first_git_repo$ git branch
* master
ttn@ttn:~/divya_clone/first_git_repo$ git pull origin master
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 3 (delta 0), reused 3 (delta 0), pack-reused 0
Unpacking objects: 100% (3/3), done.
From github.com:divyaarora95/first_git_repo
 * branch            master     -> FETCH_HEAD
   69adb7d..6c23d48  master     -> origin/master
Updating 69adb7d..6c23d48
Fast-forward
 file1.txt | 1 +
 1 file changed, 1 insertion(+)
ttn@ttn:~/divya_clone/first_git_repo$ ls -al
total 20
drwxr-xr-x 3 ttn ttn 4096 Feb  5 17:54 .
drwxr-xr-x 3 ttn ttn 4096 Feb  5 17:49 ..
-rw-r--r-- 1 ttn ttn   31 Feb  5 17:54 file1.txt
-rw-r--r-- 1 ttn ttn   21 Feb  5 17:49 file2.txt
drwxr-xr-x 8 ttn ttn 4096 Feb  5 17:54 .git
ttn@ttn:~/divya_clone/first_git_repo$ cat file1.txt
this is file 1
changed
change2
ttn@ttn:~/divya_clone/first_git_repo$
```

Q 11. Check differences between a file and its staged version

```
ttn@ttn:~/divya_ttn$ nano file1.txt
ttn@ttn:~/divya_ttn$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   file1.txt

no changes added to commit (use "git add" and/or "git commit -a")
ttn@ttn:~/divya_ttn$ git add file1.txt
ttn@ttn:~/divya_ttn$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        modified:   file1.txt

ttn@ttn:~/divya_ttn$ nano file1.txt
ttn@ttn:~/divya_ttn$ git diff
diff --git a/file1.txt b/file1.txt
index 1627068..48d500f 100644
--- a/file1.txt
+++ b/file1.txt
@@ -2,3 +2,4 @@ this is file 1
 changed
 change2
 change3
+change4
ttn@ttn:~/divya_ttn$ 
```

Q 12. Ignore a few files to be checked in.

```
ttn@ttn:~/divya_ttn$ touch .gitignore
ttn@ttn:~/divya_ttn$ touch ignore1.txt
ttn@ttn:~/divya_ttn$ touch ignore2.txt
ttn@ttn:~/divya_ttn$ ls -al
total 20
drwxr-xr-x  3 ttn ttn 4096 Feb  5 22:33 .
drwxr-xr-x 21 ttn ttn 4096 Feb  5 17:48 ..
-rw-r--r--  1 ttn ttn   47 Feb  5 22:06 file1.txt
-rw-r--r--  1 ttn ttn   21 Feb  5 17:40 file2.txt
drwxr-xr-x  8 ttn ttn 4096 Feb  5 22:02 .git
-rw-r--r--  1 ttn ttn    0 Feb  5 22:33 .gitignore
-rw-r--r--  1 ttn ttn    0 Feb  5 22:33 ignore1.txt
-rw-r--r--  1 ttn ttn    0 Feb  5 22:33 ignore2.txt
ttn@ttn:~/divya_ttn$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        modified:   file1.txt

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   file1.txt

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

        .gitignore
        ignore1.txt
        ignore2.txt

ttn@ttn:~/divya_ttn$ nano .git
.git/        .gitignore
```

```
ttn@ttn:~/divya_ttn$ nano .git
.git/        .gitignore
ttn@ttn:~/divya_ttn$ nano .gitignore
ttn@ttn:~/divya_ttn$ git status
On branch master
Changes to be committed:
  (use "git reset HEAD <file>..." to unstage)

        modified:   file1.txt

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   file1.txt

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

        .gitignore

ttn@ttn:~/divya_ttn$ git add .
ttn@ttn:~/divya_ttn$ git commit -m "comitting gitignore"
[master 25bf403] comitting gitignore
 2 files changed, 5 insertions(+)
 create mode 100644 .gitignore
ttn@ttn:~/divya_ttn$ git push origin master
Counting objects: 4, done.
Delta compression using up to 4 threads.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 366 bytes | 366.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0)
To github.com:divyaarora95/first_git_repo.git
   6c23d48..25bf403  master -> master
```

Q 13. Create a new branch.

```
ttn@ttn:~/divya_ttn$ git branch
* master
ttn@ttn:~/divya_ttn$ git checkout -b divya-branch
Switched to a new branch 'divya-branch'
ttn@ttn:~/divya_ttn$ git branch
* divya-branch
  master
```

Q 14. Diverge them with commits

```
ttn@ttn:~/divya_ttn$ git branch
* master
ttn@ttn:~/divya_ttn$ git checkout -b divya-branch
Switched to a new branch 'divya-branch'
ttn@ttn:~/divya_ttn$ git branch
* divya-branch
  master
ttn@ttn:~/divya_ttn$ touch divyafile.txt
ttn@ttn:~/divya_ttn$ nano divyafile.txt
ttn@ttn:~/divya_ttn$ git add .
ttn@ttn:~/divya_ttn$ git commit -m "commit in divya branch"
[divya-branch 91f09d6] commit in divya branch
 1 file changed, 2 insertions(+)
 create mode 100644 divyafile.txt
ttn@ttn:~/divya_ttn$ git checkout master
Switched to branch 'master'
ttn@ttn:~/divya_ttn$ touch masterfile.txt
ttn@ttn:~/divya_ttn$ nano masterfile.txt
```

```
ttn@ttn:~/divya_ttn$ git add masterfile.txt
ttn@ttn:~/divya_ttn$ git commit masterfile.txt
[master 24a152b] commit in master branch
 1 file changed, 2 insertions(+)
 create mode 100644 masterfile.txt
```

Q 15. Edit the same file at the same line on both branches and commit

```
ttn@ttn:~/divya_ttn$ ls -l
total 12
-rw-r--r-- 1 ttn ttn 47 Feb  5 22:06 file1.txt
-rw-r--r-- 1 ttn ttn 21 Feb  5 17:40 file2.txt
-rw-r--r-- 1 ttn ttn  0 Feb  5 22:33 ignore1.txt
-rw-r--r-- 1 ttn ttn  0 Feb  5 22:33 ignore2.txt
-rw-r--r-- 1 ttn ttn 33 Feb  5 22:44 masterfile.txt
ttn@ttn:~/divya_ttn$ nano file1.txt
ttn@ttn:~/divya_ttn$ git add file1.txt
ttn@ttn:~/divya_ttn$ git commit -m "commiting edited file in master"
[master 5d4d906] commiting edited file in master
 1 file changed, 1 insertion(+)
ttn@ttn:~/divya_ttn$ git checkout divya-branch
Switched to branch 'divya-branch'
ttn@ttn:~/divya_ttn$ ls -al
total 28
drwxr-xr-x  3 ttn ttn 4096 Feb  5 22:52 .
drwxr-xr-x 21 ttn ttn 4096 Feb  5 17:48 ..
-rw-r--r--  1 ttn ttn   32 Feb  5 22:52 divyafile.txt
-rw-r--r--  1 ttn ttn   47 Feb  5 22:52 file1.txt
-rw-r--r--  1 ttn ttn   21 Feb  5 17:40 file2.txt
drwxr-xr-x  8 ttn ttn 4096 Feb  5 22:52 .git
-rw-r--r--  1 ttn ttn   25 Feb  5 22:35 .gitignore
-rw-r--r--  1 ttn ttn    0 Feb  5 22:33 ignore1.txt
-rw-r--r--  1 ttn ttn    0 Feb  5 22:33 ignore2.txt
ttn@ttn:~/divya_ttn$ nano file
file1.txt  file2.txt
ttn@ttn:~/divya_ttn$ nano file1.txt
ttn@ttn:~/divya_ttn$ git add file1.txt
ttn@ttn:~/divya_ttn$ git commit -m "commiting file1 from divya-branch"
[divya-branch c74a291] commiting file1 from divya-branch
 1 file changed, 2 insertions(+)
ttn@ttn:~/divya_ttn$
```

Q 16. Try merging and resolve merge conflicts

```
1 file changed, 2 insertions(+)
ttn@ttn:~/divya_ttn$ git checkout master
Switched to branch 'master'
ttn@ttn:~/divya_ttn$ git merge --no-ff divya-branch
Auto-merging file1.txt
CONFLICT (content): Merge conflict in file1.txt
Automatic merge failed; fix conflicts and then commit the result.
ttn@ttn:~/divya_ttn$ nano file1.txt
ttn@ttn:~/divya_ttn$ git add file1.txt
ttn@ttn:~/divya_ttn$ git commit -m "resolving merge conflicts"
[master 5af2bcd] resolving merge conflicts
ttn@ttn:~/divya_ttn$
```

```
this is file 1
changed
change2
change3
change4

Editing file1 from master
=======
edited in divya-branch

>>>>>>> divya-branch
```

```
this is file 1
changed
change2
change3
change4

Editing file1 from master

edited in divya-branch
```

Q 17. Stash the changes and pop them

```
ttn@ttn:~/divya_ttn$ git branch
  divya-branch
* master
ttn@ttn:~/divya_ttn$ nano file2.txt
ttn@ttn:~/divya_ttn$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   file2.txt

no changes added to commit (use "git add" and/or "git commit -a")
ttn@ttn:~/divya_ttn$ git stash
Saved working directory and index state WIP on master: 5af2bcd resolving merge conflicts
ttn@ttn:~/divya_ttn$ git status
On branch master
nothing to commit, working tree clean
ttn@ttn:~/divya_ttn$ git stash pop
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   file2.txt

no changes added to commit (use "git add" and/or "git commit -a")
Dropped refs/stash@{0} (8a43eec9943c1fe04a99bf5230e8a3d08e6e5ce0)
ttn@ttn:~/divya_ttn$
```

Q 18. Add the following code to your .bashrc file : color_prompt="yes"

```
parse_git_branch() {
git branch 2> /dev/null | sed -e '/^[^*]/d' -e 's/* \(.*\)/(\1)/'
}
if [ "$color_prompt" = yes ]; then
PS1='\u@\h\[\033[00m\]:\[\033[01;34m\]\W\[\033[01;31m\]
$(parse_git_branch)\[\033[00m\]\$ '
else
PS1='\u@\h:\W $(parse_git_branch)\$ '
fi
unset color_prompt force_color_prompt.
```

```
lias alert='notify-send --urgency=low -i "$([ $? = 0 ] && echo terminal || echo error)" "$(history|tail -n1|sed -e '\''s/^\s*[0-9]\+\s*//

 Alias definitions.
 You may want to put all your additions into a separate file like
 ~/.bash_aliases, instead of adding them here directly.
 See /usr/share/doc/bash-doc/examples in the bash-doc package.

f [ -f ~/.bash_aliases ]; then
   . ~/.bash_aliases
i

 enable programmable completion features (you don't need to enable
 this, if it's already enabled in /etc/bash.bashrc and /etc/profile
 sources /etc/bash.bashrc).
f ! shopt -oq posix; then
 if [ -f /usr/share/bash-completion/bash_completion ]; then
   . /usr/share/bash-completion/bash_completion
 elif [ -f /etc/bash_completion ]; then
   . /etc/bash_completion
 fi
i
olor_prompt="yes"
arse_git_branch() {
it branch 2> /dev/null | sed -e '/^[^*]/d' -e 's/* \(.*\)/(\1)/'

f [ "$color_prompt" = yes ]; then
S1='\u@\h\[\033[00m\]:\[\033[01;34m\]\W\[\033[01;31m\] $(parse_git_branch)\[\033[00m\]\$ '
lse
S1='\u@\h:\W $(parse_git_branch)\$ '
i
nset color_prompt force_color_prompt
```

```
G Get Help    ^O Write Out   ^W Where Is    ^K Cut Text    ^J Justify    ^C Cur Pos      M-U Undo    M-A Mark Text  M-] To Bracket
X Exit        ^R Read File   ^\ Replace     ^U Uncut Text  ^T To Spell   ^  Go To Line   M-E Redo    M-6 Copy Text  M-W WhereIs Next
```

```
ttn@ttn:~/divya_ttn$ nano ~/.bashrc
ttn@ttn:~/divya_ttn$ source ~/.bashrc
ttn@ttn:divya_ttn (master)$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git checkout -- <file>..." to discard changes in working directory)

        modified:   file2.txt

no changes added to commit (use "git add" and/or "git commit -a")
ttn@ttn:divya_ttn (master)$
```