Comparing two commits using git diff

Code changed-

ClassicPage.java

```java
package Pages;

public class ClassicPage {

    public void classic() {

        int k=100;
        int k1=200;
        int div=k1/k;
        System.out.println(div);
        System.out.println("hi");
    System.out.println("bye code from remote");
    System.out.println("Accepted our friends code");
    System.out.println("alias check");



    }

    public void master() {
        System.out.println("master blaster");
        int n=10;
    }

}

```

MINGW64:/e/Naveen_GIT_Training/GIT_Training/GitHubPractice

```
karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   src/Pages/ClassicPage.java

no changes added to commit (use "git add" and/or "git commit -a")

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git add .

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git commit -m "c1"
[master 296e227] c1
 1 file changed, 8 insertions(+)

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$
```

Added more code-

ClassicPage.java

```java
package Pages;

public class ClassicPage {

    public void classic() {

        int k=100;
        int k1=200;
        int div=k1/k;
        System.out.println(div);
        System.out.println("hi");
    System.out.println("bye code from remote");
    System.out.println("Accepted our friends code");
    System.out.println("alias check");



    }

    public void master() {
        System.out.println("master blaster");
        int n=10;
        int k=20;
    }

}

```

```
karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   src/Pages/ClassicPage.java

no changes added to commit (use "git add" and/or "git commit -a")
g
karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git add .

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git commit -m "c2"
[master bda9009] c2
 1 file changed, 1 insertion(+)

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$
```

Another code change-

ClassicPage.java

```java
package Pages;

public class ClassicPage {

    public void classic() {

        int k=100;
        int k1=200;
        int div=k1/k;
        System.out.println(div);
        System.out.println("hi");
    System.out.println("bye code from remote");
    System.out.println("Accepted our friends code");
    System.out.println("alias check");



    }

    public void master() {
        System.out.println("master blaster");
        int n=10;
        int k=20;
        System.out.println("to check the diff between commits");
    }

}

```

```
karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   src/Pages/ClassicPage.java

no changes added to commit (use "git add" and/or "git commit -a")

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git add .

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git commit -m "c3"
[master 82086bb] c3
 1 file changed, 1 insertion(+)

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$
```

MINGW64:/e/Naveen_GIT_Training/GIT_Training/GitHubPractice

```
karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git log --oneline
82086bb (HEAD -> master) c3
bda9009 c2
296e227 c1
cdf2a45 (origin/master) trying some scenarios
76d8c9d updated classic page after merge conflict
cb0df58 updated classic page java file after merge conflict
5d0979c added classic page
fed8ed5 Create ClassicPage.java
1ce0f6b added cart feature page
23fb8aa Merge branch 'master' of https://github.com/karanAtreya1986/GitHubCourse
672c0ec Create CartPage.java
45cad7d git cherry pick third commit
ac11998 second cherry commit
d003198 first cherry commit
c5a9d38 Merge branch 'master' of https://github.com/karanAtreya1986/GitHubCourse
fd51b4d Update hellofetch.txt
ecd7db3 Merge branch 'master' of https://github.com/karanAtreya1986/GitHubCourse
c076a2f Create hellofetch.txt
13085af Merge branch 'master' of https://github.com/karanAtreya1986/GitHubCourse
2e06418 Create testDemo.txt
7042519 (tag: v3.0) feature three is developed
2a8c1e0 (tag: v2.0) feature 2 is added
9825329 (tag: v1.0) feature 1 is added
ca66c6e Merge pull request #1 from karanAtreya1986/RP
2283173 (origin/RP, RP) reg page actions code
a4d3eb0 (feature1) updated my test with city field
89d2131 updated my test class
0b7375b added some new files
87e6219 modified page classes
97efad9 added/udpated/deleted files
9fe238f first commit

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$
```

See difference between head and two commits before head-

```
karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git diff HEAD~2 HEAD
diff --git a/src/Pages/ClassicPage.java b/src/Pages/ClassicPage.java
index 26a3eec..a063e00 100644
--- a/src/Pages/ClassicPage.java
+++ b/src/Pages/ClassicPage.java
@@ -20,6 +20,8 @@ public class ClassicPage {
        public void master() {
        System.out.println("master blaster");
        int n=10;
+       int k=20;
+       System.out.println("to check the diff between commits");
     }

 }

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$
```

Shows differences based on files also-

MINGW64:/e/Naveen_GIT_Training/GIT_Training/GitHubPractice

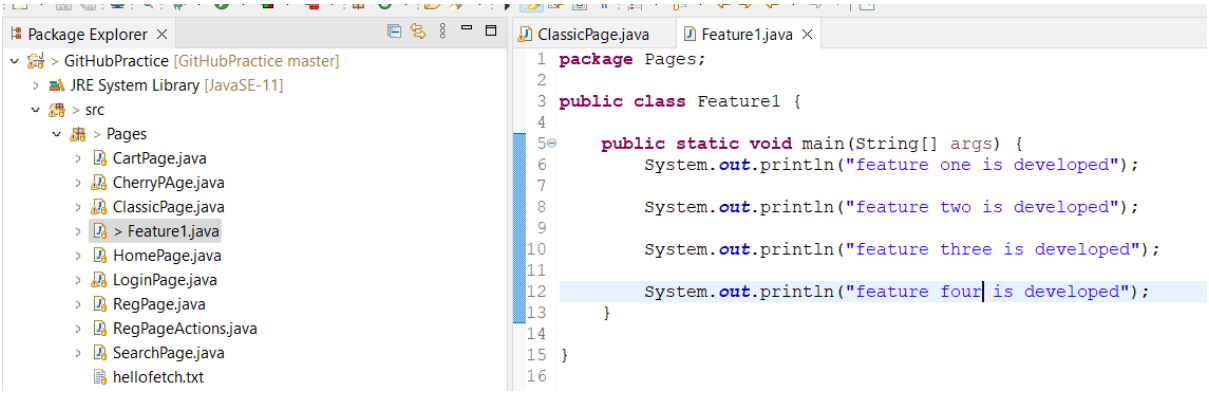
```
karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git diff HEAD~2 HEAD src/Pages/ClassicPage.java
diff --git a/src/Pages/ClassicPage.java b/src/Pages/ClassicPage.java
index 26a3eec..a063e00 100644
--- a/src/Pages/ClassicPage.java
+++ b/src/Pages/ClassicPage.java
@@ -20,6 +20,8 @@ public class ClassicPage {
        public void master() {
        System.out.println("master blaster");
        int n=10;
+       int k=20;
+       System.out.println("to check the diff between commits");
     }

 }

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$
```

This will show commit changes for the specific file. What happened two heads before and in current head.

Code changed in another file-



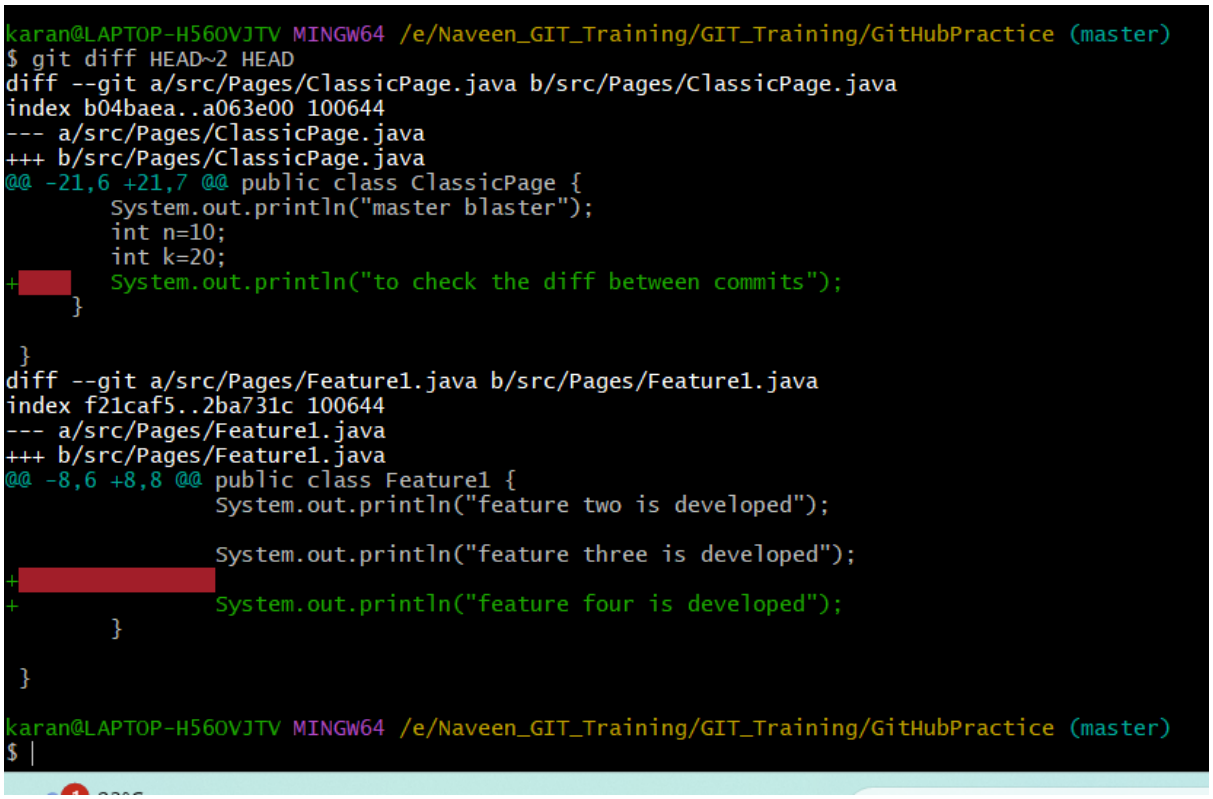

```
karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git status
On branch master
Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   src/Pages/Feature1.java

no changes added to commit (use "git add" and/or "git commit -a")

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git add .

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git commit -m "c4"
[master b951744] c4
 1 file changed, 2 insertions(+)

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$
```


karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git diff HEAD~2 HEAD
diff --git a/src/Pages/ClassicPage.java b/src/Pages/ClassicPage.java
index b04baea..a063e00 100644
--- a/src/Pages/ClassicPage.java
+++ b/src/Pages/ClassicPage.java
@@ -21,6 +21,7 @@ public class ClassicPage {
System.out.println("master blaster");
int n=10;
int k=20;
+ System.out.println("to check the diff between commits");
}
}
diff --git a/src/Pages/Feature1.java b/src/Pages/Feature1.java
index f21caf5..2ba731c 100644
--- a/src/Pages/Feature1.java
+++ b/src/Pages/Feature1.java
@@ -8,6 +8,8 @@ public class Feature1 {
System.out.println("feature two is developed");
System.out.println("feature three is developed");
+
+ System.out.println("feature four is developed");
}
}
karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$

```
karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$ git log --oneline
b951744 (HEAD -> master) c4
82086bb c3
bda9009 c2
296e227 c1
cdf2a45 (origin/master) trying some scenarios
76d8c9d updated classic page after merge conflict
cb0df58 updated classic page java file after merge conflict
5d0979c added classic page
fed8ed5 Create ClassicPage.java
1ce0f6b added cart feature page
23fb8aa Merge branch 'master' of https://github.com/karanAtreya1986/GitHubCourse
672c0ec Create CartPage.java
45cad7d git cherry pick third commit
ac11998 second cherry commit
d003198 first cherry commit
c5a9d38 Merge branch 'master' of https://github.com/karanAtreya1986/GitHubCourse
fd51b4d Update hellofetch.txt
ecd7db3 Merge branch 'master' of https://github.com/karanAtreya1986/GitHubCourse
c076a2f Create hellofetch.txt
13085af Merge branch 'master' of https://github.com/karanAtreya1986/GitHubCourse
2e06418 Create testDemo.txt
7042519 (tag: v3.0) feature three is developed
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89d2131 updated my test class
0b7375b added some new files
87e6219 modified page classes
97efad9 added/udpated/deleted files
9fe238f first commit

karan@LAPTOP-H56OVJTV MINGW64 /e/Naveen_GIT_Training/GIT_Training/GitHubPractice (master)
$
```

We can use “diff” for checking differences in commits, checking differences between commits from one file, checking differences between commits in multiple files.