

# SCD-Lab

## Lab#8

Participants:

1. Anas Ali - 22F-3673
2. Umair Altaf - 22F-3737
3. Anas Altaf - 22F-3639

## Git Tasks:

Task 01:

Member 1:

```
1 public class Main {  Anas Ali +1
2     public int add(int a , int b){ 1 usage  Anas Ali
3         return a+b;
4     }
5     public int multiplication(int a ,int b){ 1 usage  Anas Ali
6         return a*b;
7     }
8     public static void main(String[] args) {  Anas Ali +1
9         Main m= new Main();
10        int sum=0;
11        System.out.println("sum of two nums");
12        sum=m.add( a: 3, b: 4);
13        System.out.println(sum);
14        int mul=0;
15        System.out.println("\n multiplication of two nums");
16        mul=m.multiplication( a: 4, b: 8);
17        System.out.println(mul);
18    }
19 }
```


```
~\Desktop\calculator_git git:[feat/calculator-methods]
git push origin feat/calculator-methods
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 744 bytes | 248.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/umairaltaf982/calculator_git.git
dd42821..3a3ceb1 feat/calculator-methods -> feat/calculator-methods
```

Conversation 0

Commits 1

Checks 0

Files changed 2




anasali3673 commented 1 minute ago

Collaborator


...

No description provided.




member 1 task

3a3ceb1



anasali3673 merged commit ef31beb into main 1 minute ago


Revert



Pull request successfully merged and closed

Delete branch



















You're all set—the feat/calculator-me... branch can be safely deleted.



Add a comment

Write

Preview

H B I                  

Add your comment here...

Reviewers

No reviews

Assignees

No one—[assign yourself](#)

Labels

None yet

Projects

None yet

Milestone

No milestone

Development

Successfully merging this pull request will create a new branch.

None yet

## Member 2:

```
PS C:\Users\Umar\Desktop\calculator> git checkout -b validation
Switched to a new branch 'validation'

PS C:\Users\Umar\Desktop\calculator> git branch
main
* validation
```

```

PS C:\Users\Umais\Desktop\calculator> git branch -d feat/validation
Deleted branch feat/validation (was dd42821).
PS C:\Users\Umais\Desktop\calculator> git checkout feat/validation
error: pathspec 'feat/validation' did not match any file(s) known to git
PS C:\Users\Umais\Desktop\calculator> git checkout -b feat/validation
PS C:\Users\Umais\Desktop\calculator> git add .
PS C:\Users\Umais\Desktop\calculator> git status
Changes to be committed:
Delta compression using up to 4 threads
Compressing objects: 100% (9/9), done.
Writing objects: 100% (10/10), 1010 bytes | 505.00 KiB/s, done.
Total 10 (delta 6), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (6/6), completed with 4 local objects.
remote:
remote: Create a pull request for 'feat/validation' on GitHub by visiting:
remote:   https://github.com/umairaltaf982/calculator\_git/pull/new/feat/validation
remote:
To https://github.com/umairaltaf982/calculator\_git.git
 * [new branch]      feat/validation -> feat/validation
PS C:\Users\Umais\Desktop\calculator>

```

🔗 **feat/validation** had recent pushes 3 seconds ago
Compare & pull request


🌐 main ▾
🌐 2 Branches
🔖 0 Tags

🔍

Add file ▾
<> Code ▾

**anasali3673** Merge pull request #1 from umairaltaf982/feat/calculator-methods
e31beb · 19 minutes ago
5 Commits


📁 .idea	member 1 task	21 minutes ago
📁 src	member 1 task	21 minutes ago
📄 .gitignore	Initial commit	42 minutes ago
📄 README.md	Update README.md	25 minutes ago
📄 calculator.iml	Initial commit	42 minutes ago




umairaltaf982 commented now


Owner ...

I have added the validation features on the input that checks its non-negative and integer






umairaltaf982 added 3 commits 17 minutes ago




adding .xml

34b2308




adding .xml


d0568cf



add the validation for integer and non-negative


f337e2e





Continuous integration has not been set up

[GitHub Actions](#) and [several other apps](#) can be used to automatically catch bugs and enforce style.



**This branch has no conflicts with the base branch**

Merging can be performed automatically.


Merge pull request

You can also [open this in GitHub Desktop](#) or view [command line instructions](#).

Merged

Feat/validation #2


umairaltaf982 merged 3 commits into main from feat/validation now




umairaltaf982 commented 1 minute ago


Owner ...

I have added the validation features on the input that checks its non-negative and integer






umairaltaf982 added 3 commits 18 minutes ago




adding .xml

34b2308




adding .xml

d0568cf




add the validation for integer and non-negative

f337e2e



umairaltaf982 merged commit aefab87 into main now

Revert



**Pull request successfully merged and closed**

You're all set—the `feat/validation` branch can be safely deleted.

Delete branch

## Task 02:

```
F:\University Tasks\FAST-BSE-5B\SCD-Lab\Lab-08\GUITask_git git:[main]
git commit -m "add basic project of GUI Login Form"
[main (root-commit) d886f53] add basic project of GUI Login Form
7 files changed, 108 insertions(+)
create mode 100644 .gitignore
create mode 100644 .idea/.gitignore
create mode 100644 .idea/misc.xml
create mode 100644 .idea/modules.xml
create mode 100644 .idea/vcs.xml
create mode 100644 GUITask_git.iml
create mode 100644 src/BackColorChanger.java

F:\University Tasks\FAST-BSE-5B\SCD-Lab\Lab-08\GUITask_git git:[main]
git push origin main
Enumerating objects: 11, done.
Counting objects: 100% (11/11), done.
Delta compression using up to 4 threads
Compressing objects: 100% (9/9), done.
Writing objects: 100% (11/11), 2.04 KiB | 697.00 KiB/s, done.
Total 11 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Anas-Altah/GUITask_git
 * [new branch]      main -> main

F:\University Tasks\FAST-BSE-5B\SCD-Lab\Lab-08\GUITask_git git:[main]
```

## Member 1:

```
Scratches and Consoles
Terminal Local x + v
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 431 bytes | 143.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
remote:
remote: Create a pull request for 'member1' on GitHub by visiting:
remote:   https://github.com/Anas-Altah/GUITask_git/pull/new/member1
remote:
To https://github.com/Anas-Altah/GUITask_git.git
 * [new branch]      member1 -> member1
PS C:\Users\ALI COMPUTERS\Desktop\GUITask_git>
```

Gmail YouTube Maps News Translate

Anas-Altat / GUITask\_git

Code Issues Pull requests Actions Projects Wiki Security Insights

You now have push access to the Anas-Altat/GUITask\_git repository.

GUITask\_git Public

member1 had recent pushes 2 minutes ago [Compare & pull request](#)

main 2 Branches 0 Tags

Go to file Add file Code

	Anas-Altat add basic project of GUI Login Form	d886f53 · 16 minutes ago	1 Commit
.idea	add basic project of GUI Login Form	16 minutes ago	
src	add basic project of GUI Login Form	16 minutes ago	
.gitignore	add basic project of GUI Login Form	16 minutes ago	
GUITask_git.iml	add basic project of GUI Login Form	16 minutes ago	

About

No description, website, or topics provided.

Activity

- 0 stars
- 1 watching
- 0 forks

Report repository

Releases

No releases published

[Create a new release](#)

```
BackColorChanger.java
8 public class BackColorChanger extends JFrame implements ActionListener {
10 public BackColorChanger() {
27 setLocation(x: 0, y: 0);
28 setVisible(true);
29 }
30 @Override
31 public void actionPerformed(ActionEvent e) {
32 if (e.getSource() == redBtn) {
33 getContentPane().setBackground(Color.RED);
34 } else if (e.getSource() == blueBtn) {
35 getContentPane().setBackground(Color.BLUE);
36 } else if (e.getSource() == greenBtn) {
37 getContentPane().setBackground(Color.GREEN);
38 } else if (e.getSource() == yellowBtn) {
39 getContentPane().setBackground(Color.YELLOW);
40 }
41 }
42 public static void main(String[] args) { new BackColorChanger(); }
45 }
46
```

Member 2:

```

> import ...
public class BackColorChanger extends JFrame implements ActionListener {  Anas Altaf +1
    private JButton redBtn, blueBtn, orangeBtn, grayBtn;  4 usages
    public BackColorChanger() {  1 usage  Anas Altaf +1
        setTitle("Color Changer");
        setLayout(new FlowLayout());
        redBtn = new JButton(text: "Red");
        blueBtn = new JButton(text: "Blue");
        orangeBtn = new JButton(text: "Orange");
        grayBtn = new JButton(text: "Gray");
        redBtn.addActionListener(l: this);
        blueBtn.addActionListener(l: this);
        orangeBtn.addActionListener(l: this);
        grayBtn.addActionListener(l: this);
        add(redBtn);
        add(blueBtn);
        add(orangeBtn);
        add(grayBtn);
        setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE);
        setSize(width: 300, height: 200);
        setLocation(x: 0, y: 0);
        setVisible(true);
    }
}

```

```

@Override
public void actionPerformed(ActionEvent e) {
    if (e.getSource() == redBtn) {
        getContentPane().setBackground(Color.RED);
    } else if (e.getSource() == blueBtn) {
        getContentPane().setBackground(Color.BLUE);
    } else if (e.getSource() == orangeBtn) {
        getContentPane().setBackground(Color.ORANGE);
    } else if (e.getSource() == grayBtn) {
        getContentPane().setBackground(Color.GRAY);
    }
}

public static void main(String[] args) { new BackColorChanger(); }
}

```

```
On branch feat/design2
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/BackColorChanger.java

no changes added to commit (use "git add" and/or "git commit -a")
PS C:\Users\Umais\Desktop\GUITask_git> git branch
* feat/design2
  main
PS C:\Users\Umais\Desktop\GUITask_git> git add .
PS C:\Users\Umais\Desktop\GUITask_git> git commit -m "change the color and btn to orange"
[feat/design2 4c339e8] change the color and btn to orange
1 file changed, 6 insertions(+), 6 deletions(-)
```

```
PS C:\Users\Umais\Desktop\GUITask_git> git push origin feat/design2
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 4 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 428 bytes | 142.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
remote:
remote: Create a pull request for 'feat/design2' on GitHub by visiting:
remote:   https://github.com/Anas-Altah/GUITask\_git/pull/new/feat/design2
remote:
```

```
To https://github.com/Anas-Altah/GUITask\_git
* [new branch]      feat/design2 -> feat/design2
PS C:\Users\Umais\Desktop\GUITask_git>
```

**Member 3:**



## Comparing changes

Choose two branches to see what's changed or to start a new pull request. If you need to, you can also [compare across forks](#) or [learn more about diff comparisons](#).

base: main ← compare: member1 ✓ **Able to merge.** These branches can be automatically merged.

Discuss and review the changes in this comparison with others. [Learn about pull requests](#)

Create pull request

→ 1 commit

1 file changed

1 contributor

Commits on Oct 10, 2024

modify gray color to yellow color

Anas-Ali-github committed 8 minutes ago

81a0c09 <>

modify gray color to yellow color

Anas-Ali-github committed 8 minutes ago

81a0c09 <>


Showing 1 changed file with 7 additions and 7 deletions.

Split Unified

src/BackColorChanger.java

```
@@ -6,24 +6,24 @@
6 6 import javax.swing.JButton;
7 7 import javax.swing.JFrame;
8 8 public class BackColorChanger extends JFrame implements ActionListener {
9 - private JButton redBtn, blueBtn, greenBtn, grayBtn;
9 + private JButton redBtn, blueBtn, greenBtn, yellowBtn;
10 10 public BackColorChanger() {
11 11     setTitle("Color Changer");
12 12     setLayout(new FlowLayout());
13 13     redBtn = new JButton("Red");
14 14     blueBtn = new JButton("Blue");
15 15     greenBtn = new JButton("Green");
16 - grayBtn = new JButton("Gray");
16 + yellowBtn = new JButton("Yellow");
17 17     redBtn.addActionListener(this);
18 18     blueBtn.addActionListener(this);
19 19     greenBtn.addActionListener(this);
20 - grayBtn.addActionListener(this);
```

# modfiy gray color to yellow color #1

**Merged** Anas-Altat merged 1 commit into `main` from `member1`  now

 Conversation **0**  Commits **1**  Checks **0**  Files changed **1**





Anas-Altat commented now


Owner ...

merging member1 changes



  modfiy gray color to yellow color

81a0c09

 Anas-Altat merged commit **b967613** into `main` now

Revert






**Pull request successfully merged and closed**

You're all set—the `member1` branch can be safely deleted.

Delete branch

## Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also [compare across forks](#). [Learn more about diff comparisons here.](#)

 base: `main`  compare: `feat/design2`  **Can't automatically merge.** Don't worry, you can still create the pull request.



Add a title

change the color and btn to orange








Reviewers



No reviews

Add a description

Write Preview

**H** **B** *I*                

Add your description here...

Heading

Assignees



No one—[assign yourself](#)

Labels



None yet

Projects



None yet

Milestone



No milestone

Development

## change the color and btn to orange #2

Resolving conflicts between `feat/design2` and `main` and committing changes → `feat/design2` Committing merge...

1 conflicting file

BackColorChanger.java

src/BackColorChanger.java

✓

```
1
2  import java.awt.Color;
3  import java.awt.FlowLayout;
4  import java.awt.event.ActionEvent;
5  import java.awt.event.ActionListener;
6  import javax.swing.JButton;
7  import javax.swing.JFrame;
8  public class BackColorChanger extends JFrame implements ActionListener {
9
10     private JButton redBtn, blueBtn, orangeBtn, grayBtn;
11
12     public BackColorChanger() {
13         setTitle("Color Changer");
14         setLayout(new FlowLayout());
15         redBtn = new JButton("Red");
16         blueBtn = new JButton("Blue");
```

## change the color and btn to orange #2

Edit <> Code

Merged

Anas-Altaf merged 2 commits into `main` from `Feat/design2` now

Conversation 0

Commits 2

Checks 0

Files changed 1

+17 -11

Anas-Altaf commented 3 minutes ago

Owner

...

Merging member2 Modifications

umairaltaf982 and others added 2 commits 8 minutes ago

change the color and btn to orange 4c339e8

Merge branch 'main' into feat/design2 6177ddb Verified

Anas-Altaf merged commit 7953a08 into main now Revert

Pull request successfully merged and closed

Delete branch

Reviewers

No reviews

Assignees

No one—assign yourself

Labels

None yet

Projects

None yet

Milestone

No milestone

Task 03:

Member 1:

```

3      // Method to validate user credentials
4      public boolean validateUser(String username, String password) { 1 usage
5          // Check if username and password are not null or empty
6          if (username == null || username.isEmpty()) {
7              System.out.println("Username cannot be null or empty.");
8              return false;
9          }
10         if (password == null || password.isEmpty()) {
11             System.out.println("Password cannot be null or empty.");
12             return false;
13         }
14
15         // Example: Check username and password format
16         if (!isValidUsername(username)) {
17             System.out.println("Invalid username format.");
18             return false;
19         }
20         if (!isValidPassword(password)) {
21             System.out.println("Invalid password format.");
22             return false;
23         }
24
25         // Example: Check against stored credentials (dummy check here)
26         if (!checkCredentials(username, password)) {

```

```

Terminal Local x + v
...
create mode 100644 .idea/vcs.xml
create mode 100644 Git-merging-task.iml
PS C:\Users\ALI COMPUTERS\IdeaProjects\Git-merging-task> git push origin feat/validate-User
Enumerating objects: 13, done.
Counting objects: 100% (13/13), done.
Delta compression using up to 4 threads
Compressing objects: 100% (8/8), done.
Writing objects: 100% (10/10), 2.20 KiB | 250.00 KiB/s, done.
Total 10 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'feat/validate-User' on GitHub by visiting:
remote:   https://github.com/anasali3673/Git-Task/pull/new/feat/validate-User
remote:
To https://github.com/anasali3673/Git-Task.git
* [new branch]      feat/validate-User -> feat/validate-User
PS C:\Users\ALI COMPUTERS\IdeaProjects\Git-merging-task>

```

Public

Pin
 Unwatch 1
 Fork 0
 Star

feat/validate-User had recent pushes 2 seconds ago
 [Compare & pull request](#)

main
1 Branch
0 Tags

Add file
<> Code

File	Commit	Time
src	first commit	12 minutes ago
.gitignore	first commit	12 minutes ago

README

**About**  
 No description, website, or topics yet.

**Activity**  
 0 stars  
 1 watching  
 0 forks

**Releases**  
 No releases published  
[Create a new release](#)

**Packages**  
 No packages published

## Member 2:

```
nothing added to commit but untracked files present (use "git add" to track)
warning: in the working copy of '.idea/vcs.xml', LF will be replaced by CRLF the next time Git touches it
PS C:\Users\Umais\Desktop\Git-Task> git commit -m "add anonymous file"
[main 5faab8e] add anonymous file
2 files changed, 12 insertions(+)
create mode 100644 .idea/.gitignore
PS C:\Users\Umais\Desktop\Git-Task> git status
Your branch is ahead of 'origin/main' by 1 commit.
(use "git push" to publish your local commits)
nothing to commit, working tree clean
PS C:\Users\Umais\Desktop\Git-Task> git checkout -b feat/registration
Switched to a new branch 'feat/registration'
PS C:\Users\Umais\Desktop\Git-Task> git branch
* feat/registration
main
PS C:\Users\Umais\Desktop\Git-Task> git pull origin feat/validate-User
remote: Enumerating objects: 13, done.
remote: Counting objects: 100% (13/13), done.
remote: Compressing objects: 100% (8/8), done.
remote: Total 10 (delta 0), reused 10 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (10/10), 2.18 KiB | 25.00 KiB/s, done.
From https://github.com/anasali3673/Git-Task
* branch          feat/validate-User -> FETCH_HEAD
* [new branch]     feat/validate-User -> origin/feat/validate-User
```

```
CONFLICT (add/add): Merge conflict in .idea/.gitignore
Auto-merging .idea/vcs.xml
CONFLICT (add/add): Merge conflict in .idea/vcs.xml
Automatic merge failed; fix conflicts and then commit the result.
PS C:\Users\Umais\Desktop\Git-Task> 
```

```
1  import java.util.HashSet;
2  import java.util.Set;
3  import java.util.regex.Pattern;
4
5  public class Main {
6
7      private Set<String> registeredUsernames = new HashSet<>(); 2 usages
8
9      public boolean validateUser(String username, String password, String email) { 1 usage
10         if (username == null || username.isEmpty()) {
11             log("Registration failed: Username cannot be null or empty.");
12             return false;
13         }
14         if (password == null || password.isEmpty()) {
15             log("Registration failed: Password cannot be null or empty.");
16             return false;
17         }
18         if (email == null || email.isEmpty()) {
19             log("Registration failed: Email cannot be null or empty.");
20             return false;
21         }
22     }
```

```
23         if (registeredUsernames.contains(username)) {
24             log("Registration failed: Username '" + username + "' is already taken.");
25             return false;
26         }
27
28         if (!isValidUsername(username)) {
29             log("Registration failed: Invalid username format.");
30             return false;
31         }
32         if (!isValidPassword(password)) {
33             log("Registration failed: Invalid password format.");
34             return false;
35         }
36         if (!isValidEmail(email)) {
37             log("Registration failed: Invalid email format.");
38             return false;
39         }
40
41         registeredUsernames.add(username);
42         log("User registration successful: " + username);
43         return true;
44     }
```

```

46 @ private boolean isValidUsername(String username) { 1 usage
47     return username.matches(regex: "[a-zA-Z0-9]{3,15}$");
48 }
49
50 @ private boolean isValidPassword(String password) { 1 usage
51     return password.matches(regex: "(?=.*[0-9])(?=.*[!@#$%^&*])[A-Za-z\\d!@#$%^&*]{8,}$");
52 }
53
54 private boolean isValidEmail(String email) { 1 usage
55     String emailRegex = "[A-Za-z0-9+_.-]+@[A-Za-z0-9.-]+$";
56     return Pattern.matches(emailRegex, email);
57 }
58
59 private void log(String message) { 8 usages
60     System.out.println(message);
61 }

```

```

63 ▶ public static void main(String[] args) {
64     Main userValidator = new Main();
65
66     // Test cases
67     String[][] testCases = {
68         {"validUser", "Password1!", "validUser@example.com"},
69         {"validUser", "Password1!", "validUser@example.com"},
70         {"invalidUser", "wrongPassword", "invalidUser@example.com"},
71         {"", "Password1!", "emptyUser@example.com"},
72         {"validUser", "", "validUser@example.com"},
73         {"duplicateUser", "Password1!", "duplicateUser@example.com"},
74         {"duplicateUser", "Password1!", "duplicateUser@example.com"},
75         {"validUser@", "Password1!", "validUser@example.com"},
76         {"user", "Valid1!", "user@example.com"}
77     };
78
79     for (String[] testCase : testCases) {
80         String username = testCase[0];
81         String password = testCase[1];
82         String email = testCase[2];
83         System.out.println("Validating user: " + username);
84         boolean isValid = userValidator.validateUser(username, password, email);
85         System.out.println("Validation result: " + isValid + "\n");
86     }

```

**Member 3:**

anasali3673 / Git-Task

Q Type [Z] to search

+

<> Code Issues Pull requests Actions Projects Wiki Security Insights

## Comparing changes

Choose two branches to see what's changed or to start a new pull request. If you need to, you can also [compare across forks](#) or [learn more about diff comparisons](#).

base: main

compare: feat/validate-User

✓ **Able to merge.** These branches can be automatically merged.

Discuss and review the changes in this comparison with others. [Learn about pull requests](#)

Create pull request

1 commit

6 files changed

1 contributor


Commits on Oct 10, 2024


add validation logic


Anas-Ali-github committed 19 minutes ago


3b9a8e6





 Open


Anas-Altat wants to merge 2 commits into `main` from `feat/registration` 

 Conversation 0

 Commits 2

 Checks 0


 Files changed 6




Anas-Altat commented now


Collaborator ...


No description provided.







umairaltat982 added 2 commits 19 minutes ago




 add anonymous file


5faab8e



 Improve registration flow and added logging

b9a6cc3






This branch has no conflicts with the base branch

Merging can be performed automatically.

Merge pull request

▼

You can also [open this in GitHub Desktop](#) or view [command line instructions](#).



Merge pull request #2 from anasali3673/feat/registration

Feat/registration

This commit will be authored by 157444488+Anas-Altat@users.noreply.github.com

Confirm merge

Cancel

Merged

## Feat/registration #2

Anas-Altat merged 2 commits into `main` from `feat/registration`  now



Anas-Altat commented now


Collaborator ...

No description provided.




umairaltat982 added 2 commits 19 minutes ago



 add anonymous file

5faab8e



 Improve registration flow and added logging

b9a6cc3



Anas-Altat merged commit `bbb7f06` into `main` now

Revert



Pull request successfully merged and closed

Delete branch

You're all set—the `feat/registration` branch can be safely deleted.