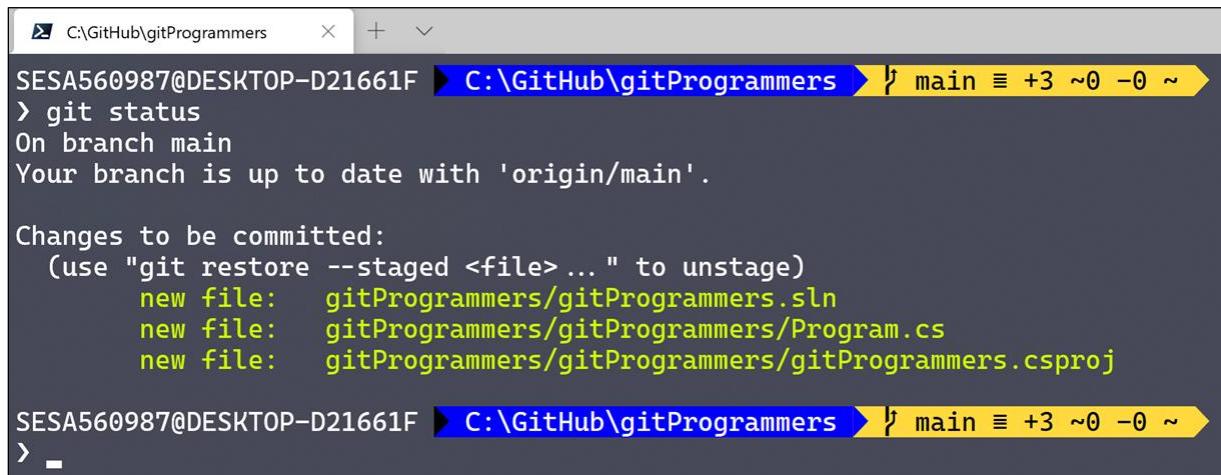


Chapter 1: Introduction

```
C:\GitHub\gitProgrammers>git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   gitProgrammers/gitProgrammers.sln
    new file:   gitProgrammers/gitProgrammers/Program.cs
    new file:   gitProgrammers/gitProgrammers/gitProgrammers.csproj
```

```
C:\GitHub\gitProgrammers>
```

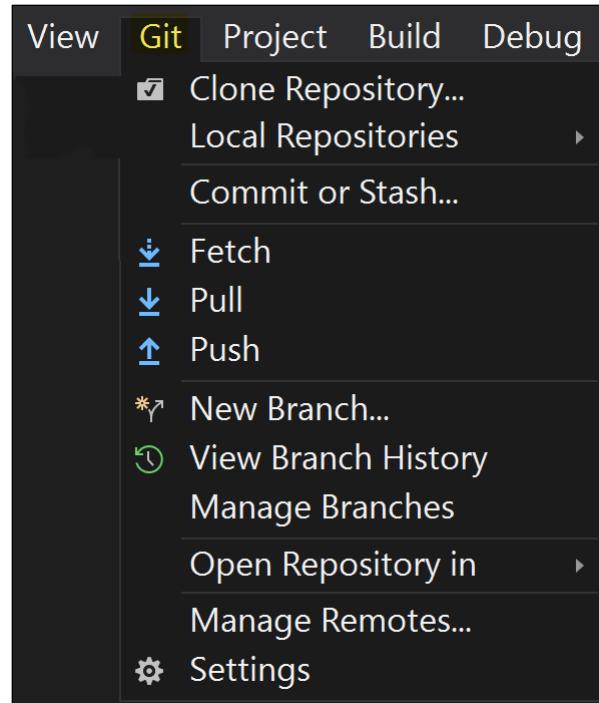


The screenshot shows a terminal window with the following content:

```
SES560987@DESKTOP-D21661F C:\GitHub\gitProgrammers > git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   gitProgrammers/gitProgrammers.sln
    new file:   gitProgrammers/gitProgrammers/Program.cs
    new file:   gitProgrammers/gitProgrammers/gitProgrammers.csproj
```

The terminal window has a title bar labeled "C:\GitHub\gitProgrammers". The command "git status" was run, and the output is displayed below it. The output shows that the branch is up to date with origin/main and lists three new files to be committed: gitProgrammers.sln, Program.cs, and gitProgrammers.csproj.



Visual Studio

Full-featured IDE to code, debug, test, and deploy to any platform. [Learn more](#)

The screenshot shows the Visual Studio IDE with the following details:

- Toolbar:** File, Edit, View, Project, Build, Debug, Test, Analyze.
- Solution Explorer:** Shows files: BookingsController.cs, LoyaltyService.cs, Hotel.cs, and SmartHotel.Services.Bookings.
- Code Editor:** Displays the beginning of a C# class definition for BookingsController.

```
14     public class BookingsController : 
15         {
16             private readonly UserBookingQue
```

- Download Visual Studio** button.
- Community 2019** button.
- Note:** Free for individual developers,

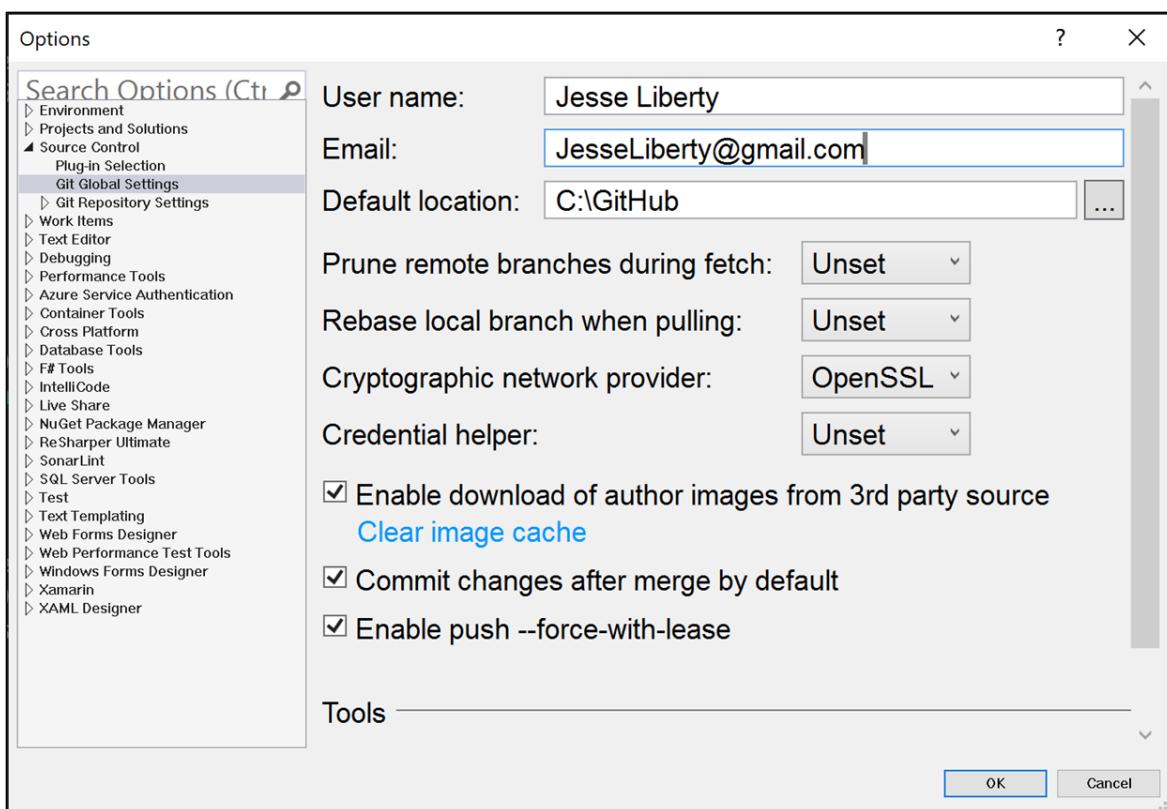
A screenshot of GitHub Desktop's interface. At the top, there are dropdown menus for File, Edit, View, Repository, Branch, and Help. Below them are three status indicators: "Current repository gitProgrammers", "Current branch main", and "Fetch origin Last fetched just now". The main area has tabs for "Changes" (which is selected, showing 3 changed files) and "History". The "Changes" tab displays a diff for the file "gitProgrammers\gitProgrammers\Program.cs". The diff shows the following code:

```
@@ -0,0 +1,12 @@
+*using System;
+
+namespace gitProgrammers
+{
+    class Program
+    {
+        static void Main(string[] args)
+        {
+            Console.WriteLine("Hello World!");
+        }
+    }
+}
```

A screenshot of GitHub Desktop's interface. At the top, there are dropdown menus for File, Edit, View, Repository, Branch, and Help. Below them are three status indicators: "Current repository desktop", "Current branch esc-pr", and "Fetch origin Last fetched 2 minutes ago". The main area has tabs for "Changes" (selected) and "History". The "Changes" tab displays a diff for the file "app\src\ui\toolbar\dropdown.tsx". The diff shows the following code:

```
@@ -145,6 +145,10 @@
 export class ToolbarDrop
```

In the center, there is a large purple button labeled "Download for Windows (64bit)". Below it, smaller text reads "Download for macOS or Windows (msi)" and "By downloading, you agree to the [Open Source Applications Terms](#)".



Options

X

Accounts

 Integrations

 Git

 Appearance

 Prompts

 Advanced

GitHub.com



Jesse Liberty
@JesseLiberty

[Sign out](#)

GitHub Enterprise

If you have a GitHub Enterprise or AE account at work, sign in to it to get access to your repositories.

[Sign in](#)

Chapter 2: Creating Your Repository

What do you want to do first?

Every developer needs to configure their environment, so let's get your GitHub experience optimized for you.

Start a new project
Start a new repository or bring over an existing repository to keep contributing to it.

[Create a repository](#)

Collaborate with your team
Improve the way your team works together and get access to more features with an organization.

[Create an organization](#)

Learn how to use GitHub
Get started with an "Introduction to GitHub" course in our Learning Lab.

[Start Learning](#)

Owner * JesseLiberty / Repository name * ProGitForProgrammers ✓

Great repository names are short and memorable. Need inspiration? How about [glowing-barnacle](#)?

Description (optional)
A demonstration program for Pro Git For Programmers

Public
Anyone on the internet can see this repository. You choose who can commit.

Private
You choose who can see and commit to this repository.

Initialize this repository with:
Skip this step if you're importing an existing repository.

Add a README file
This is where you can write a long description for your project. [Learn more](#).

Add .gitignore
Choose which files not to track from a list of templates. [Learn more](#).
.gitignore template: [VisualStudio](#)

Choose a license
A license tells others what they can and can't do with your code. [Learn more](#).
License: [MIT License](#)

This will set `main` as the default branch. Change the default name in your [settings](#).

Grant your Marketplace apps access to this repository
You are subscribed to 1 Marketplace app

Slack + GitHub
Connect your code without leaving Slack

[Create repository](#)

main ▾ 1 branch 0 tags

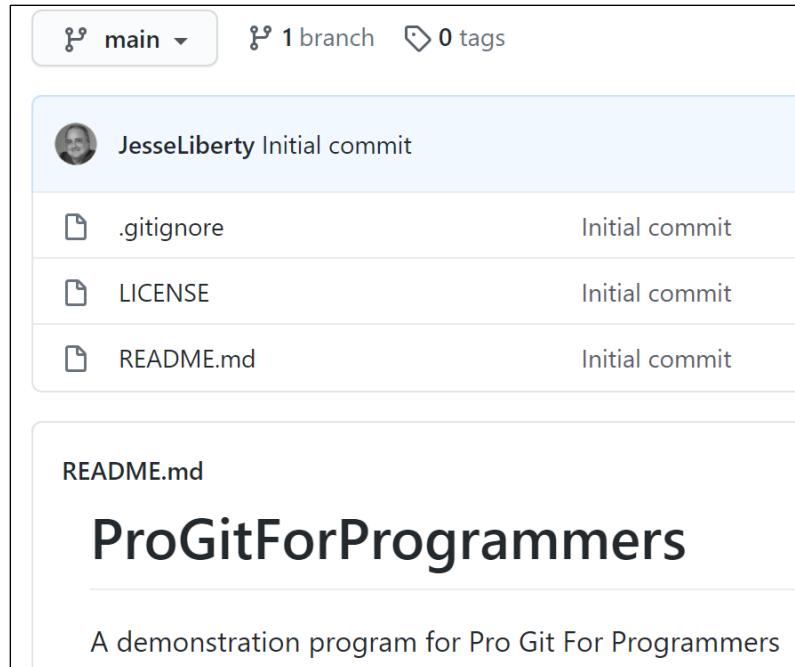
JesseLiberty Initial commit

| | |
|--------------|----------------|
| 📄 .gitignore | Initial commit |
| 📄 LICENSE | Initial commit |
| 📄 README.md | Initial commit |

README.md

ProGitForProgrammers

A demonstration program for Pro Git For Programmers



Go to file Add file ▾ Code ▾

Clone ?

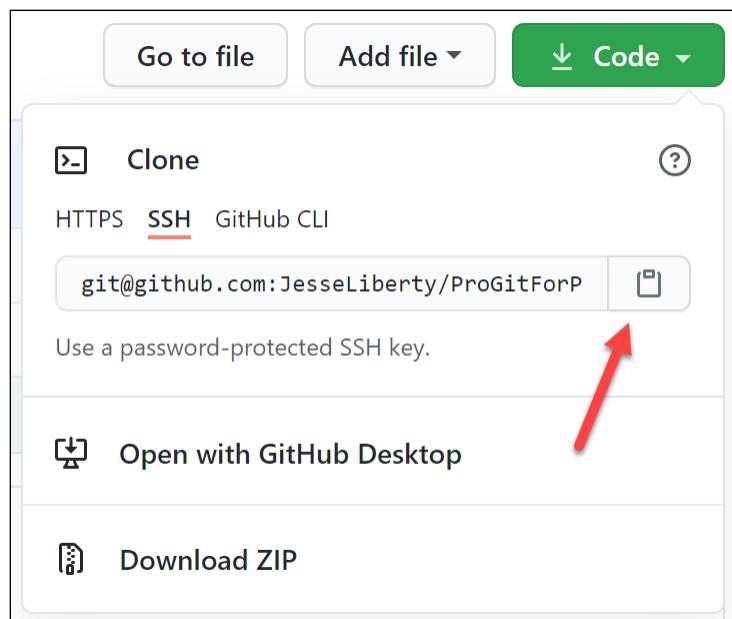
HTTPS SSH GitHub CLI

git@github.com:JesseLiberty/ProGitForP

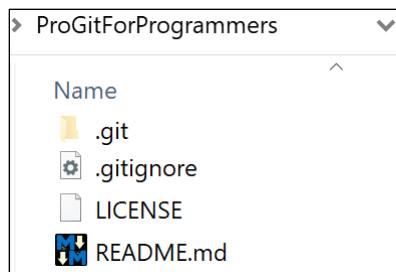
Use a password-protected SSH key.

Open with GitHub Desktop

Download ZIP



```
SESA560987@DESKTOP-D21661F ➤ C:\GitHub\CommandLine
> git clone git@github.com:JesseLiberty/ProGitForProgrammers.git
Cloning into 'ProGitForProgrammers' ...
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (5/5), done.
SESA560987@DESKTOP-D21661F ➤ C:\GitHub\CommandLine
> _
```



Clone a repository

Enter a Git repository URL

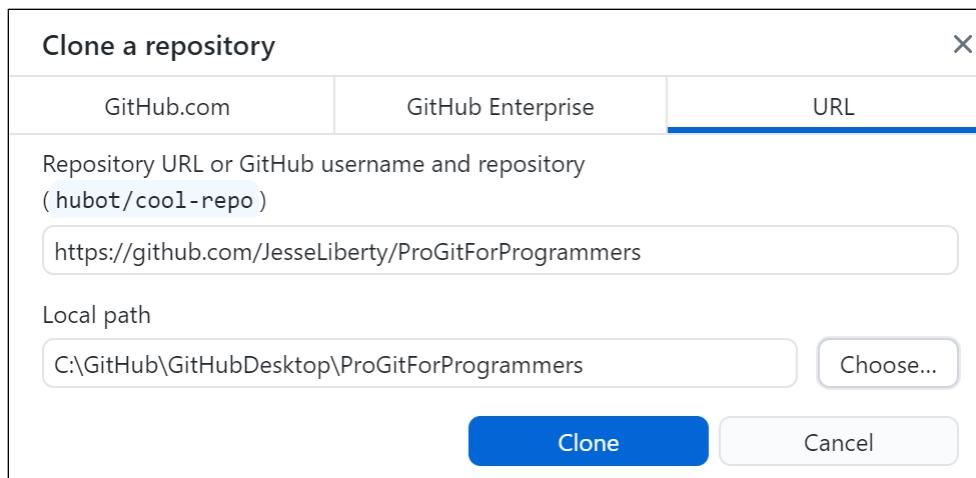
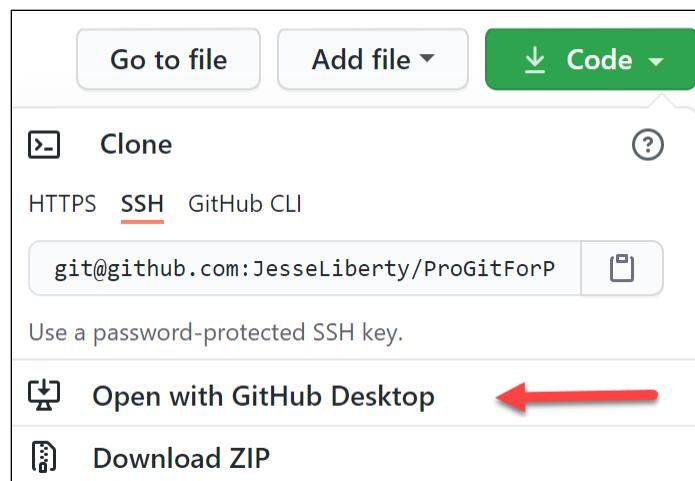
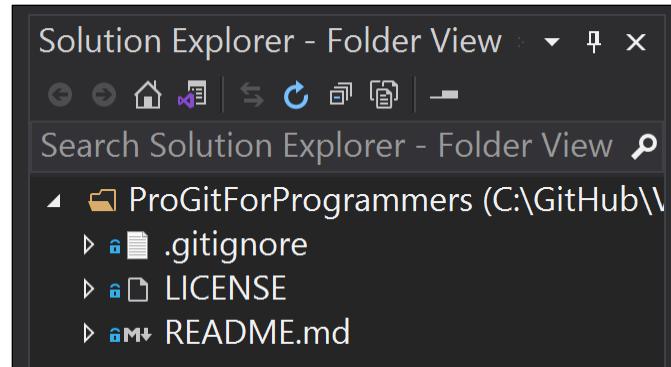
Repository location

Path

 ...

Browse a repository

- Cloud icon Azure DevOps
- Github icon GitHub



```
C:\GitHub\CommandLine\ProGitForProgrammers ➜ ⚡ main └ +1 ~0 -0 !
```

```

> git status
On branch main
Your branch is up to date with 'origin/main'.

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

nothing added to commit but untracked files present (use "git add" to track)
SESA560987@DESKTOP-D21661F > C:\GitHub\CommandLine\ProGitForProgrammers > ! main ≡ +1 ~0 -0 !
> -

```



Jesse Liberty First commit -- from command line

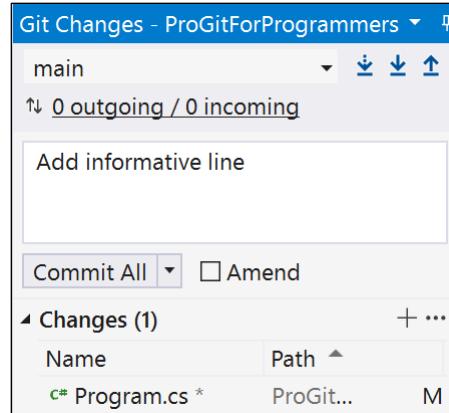
Latest commit a3f08e 1 minute ago History

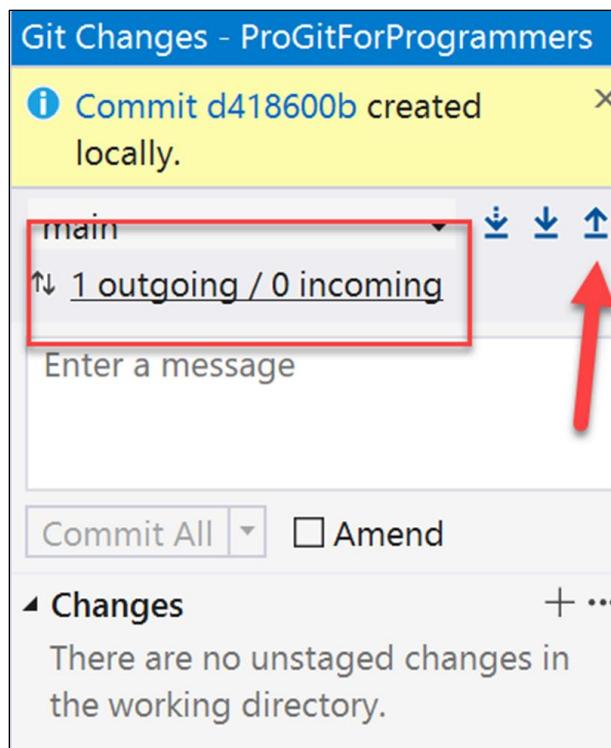
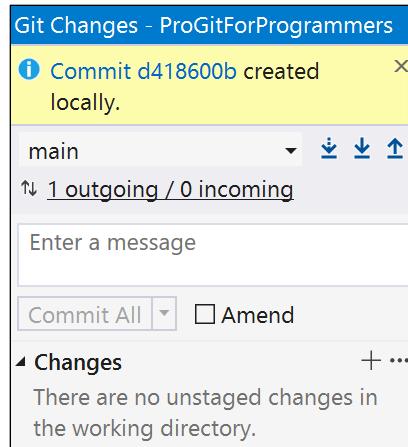
0 contributors

12 lines (11 sloc) | 190 Bytes

```

1  using System;
2
3  namespace ProGitForProgrammers
4  {
5      class Program
6      {
7          static void Main(string[] args)
8          {
9              Console.WriteLine("Hello World!");
10         }
11     }
12 }
```





| Graph | Message | Author |
|----------------------|-----------------------------------|------------------|
| Local History | | |
| | Add informative WriteLine | main Jesse Li... |
| | First commit -- from command line | Jesse Li... |
| | Initial commit | Jesse Li... |

```
> git pull
remote: Enumerating objects: 8, done.
remote: Counting objects: 100% (8/8), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 5 (delta 3), reused 5 (delta 3), pack-reused 0
Unpacking objects: 100% (5/5), 474 bytes | 12.00 KiB/s, done.
From github.com:JesseLiberty/ProGitForProgrammers
  a3f085e..d418600  main      -> origin/main
Updating a3f085e..d418600
Fast-forward
 ProGitForProgrammers/ProGitForProgrammers/Program.cs | 1 +
 1 file changed, 1 insertion(+)
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\CommandLine\ProGitForProgrammers ▶ ↵ main ≡
```

No local changes

There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.



Pull 1 commit from the origin remote

The current branch (`main`) has a commit on GitHub that does not exist on your machine.

[Pull origin](#)

Always available in the toolbar when there are remote changes or `Ctrl Shift P`

```
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\CommandLine\ProGitForProgrammers ▶ ↵ main ≡ +0 ~1 -0 !
> git status
On branch main
Your branch is up to date with 'origin/main'.

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:   ProGitForProgrammers/ProGitForProgrammers/Program.cs

no changes added to commit (use "git add" and/or "git commit -a")
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\CommandLine\ProGitForProgrammers ▶ ↵ main ≡ +0 ~1 -0 !
> _
```

```
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\CommandLine\ProGitForProgrammers ▶ ↵ main ↑1
> git push
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 16 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 498 bytes | 498.00 KiB/s, done.
Total 5 (delta 3), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (3/3), completed with 3 local objects.
To github.com:JesseLiberty/ProGitForProgrammers.git
 d418600..ef16f81  main -> main
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\CommandLine\ProGitForProgrammers ▶ ↵ main ≡
> _
```

```
File Edit Selection View Go Run Terminal Help COMMIT_EDITMSG -  
≡ COMMIT_EDITMSG X  
C: > GitHub > CommandLine > ProGitForProgrammers > .git > ≡ COMMIT_EDITMSG  
1 Add a line to program to indicate why it was added  
2  
3 The line was added specifically to give me an opportunity to demonstrate  
4 using extra space to clarify the commit.  
5  
6  
7 # Please enter the commit message for your changes. Lines starting  
8 # with '#' will be ignored, and an empty message aborts the commit.  
9 #  
10 # On branch main  
11 # Your branch is up to date with 'origin/main'.  
12 #  
13 # Changes to be committed:  
14 #   modified:   ProGitForProgrammers/ProGitForProgrammers/Program.cs  
15 #  
16
```

```
commit 4ac9d40d6f98460de31e0344cc30e660b43a459c (HEAD → main)  
Author: Jesse Liberty <JesseLiberty@non.se.com>  
Date:   Wed Feb 3 14:38:12 2021 -0500  
  
Add a line to program to indicate why it was added  
  
The line was added specifically to give me an opportunity to demonstrate  
using extra space to clarify the commit.
```

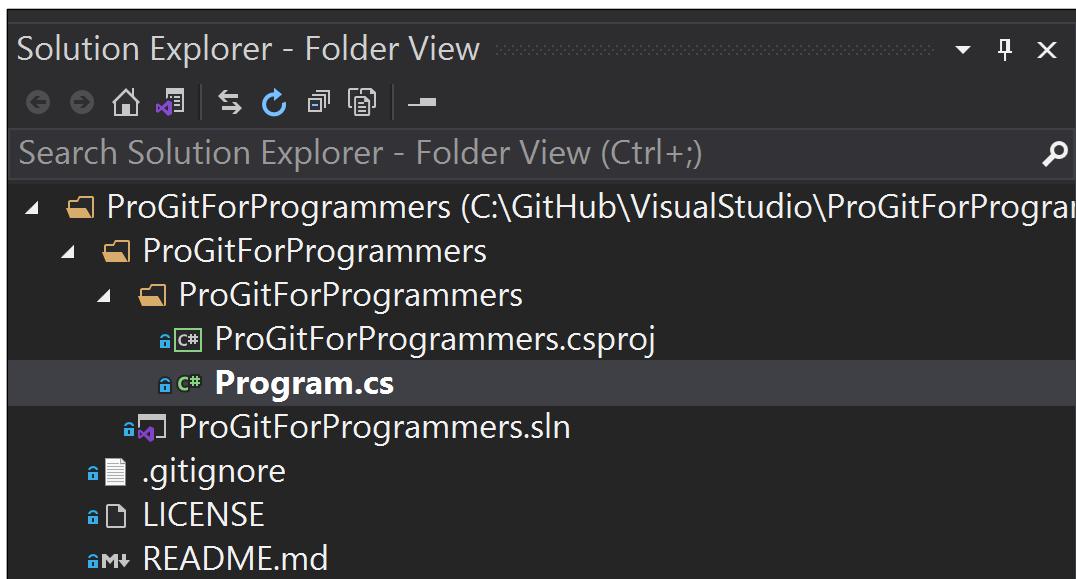
```
> git log --oneline  
4ac9d40 (HEAD → main) Add a line to program to indicate why it was added  
ef16f81 (origin/main, origin/HEAD) Add writeline indicating we are in command line  
d418600 Add informative WriteLine  
a3f085e First commit -- from command line  
a5798e1 Initial commit
```

Chapter 3: Branching, Places, and GUIs

| Name | Date modified | Type | Size |
|-----------------------------|------------------|------------------------|------|
| bin | 2/1/2021 5:16 PM | File folder | |
| obj | 2/1/2021 5:16 PM | File folder | |
| ProGitForProgrammers.csproj | 2/1/2021 5:16 PM | C# Project Source File | 1 KB |
| Program.cs | 2/3/2021 2:37 PM | C# Source File | 1 KB |

```
Directory: C:\GitHub\CommandLine\ProGitForProgrammers
Mode                LastWriteTime        Length  Name
----                -----          ----  --
d----              2/1/2021  5:16 PM           ProGitForProgrammers
-a---              2/1/2021  1:27 PM        6352  .gitignore
-a---              2/1/2021  1:27 PM       1091  LICENSE
-a---              2/1/2021  1:27 PM         77   README.md

SESA560987@DESKTOP-D21661F > C:\GitHub\CommandLine\ProGitForProgrammers > ↵ main ↴
```



```

class Program
{
    static void Main(string[] args)
    {
        Console.WriteLine("Hello World!");
        Console.WriteLine("I just added this in Visual Studio");
        Console.WriteLine("I just added this in the command line repo");
        Console.WriteLine("This line added to show the staging area");
    }
}

```

```

> git status
On branch main
Your branch is up to date with 'origin/main'.

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:   ProGitForProgrammers/ProGitForProgrammers/Program.cs

no changes added to commit (use "git add" and/or "git commit -a")
SESA560987@DESKTOP-D21661F > C:\GitHub\CommandLine\ProGitForProgrammers > ↵ main ≡ +0 ~1 -0 !

```

```

> git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   ProGitForProgrammers/ProGitForProgrammers/Program.cs

```

↑ 0 ✎ 1 🔍 ProGitForProgrammers ↗ main ▾

Git Changes - ProGitForProgrammers

main

↑ 0 outgoing / 0 incoming

Enter a message

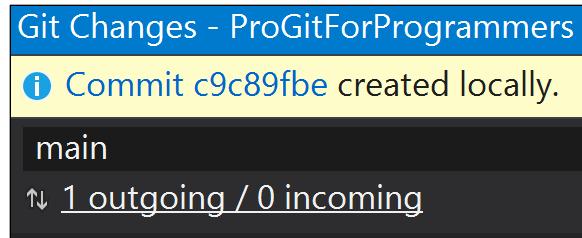
Commit All ▾ Amend

▲ Changes (1) + ...

| Name | Path | M |
|------------|--------------------------------------|---|
| Program.cs | ProGitForProgrammers\ProGitForPro... | M |

▷ Stashes

Git Changes Solution Explorer Team Explorer Notifications



File Edit View Repository Branch Help

Current repository: ProGitForProgrammers Current branch: main Fetch origin: Last fetched 20 minutes ago

Changes (1) History ProGitForProgrammers\ProGitForProgrammers\Program.cs

1 changed file: Program.cs

```

@@ -10,6 +10,8 @@ namespace ProGitForProgrammers
    Console.WriteLine("I just added this in Visual Studio");
    Console.WriteLine("I just added this in the command line repo");
    Console.WriteLine("This line added to demonstrate messages.");
+   Console.WriteLine("This line added to show the staging area");
}
}
}

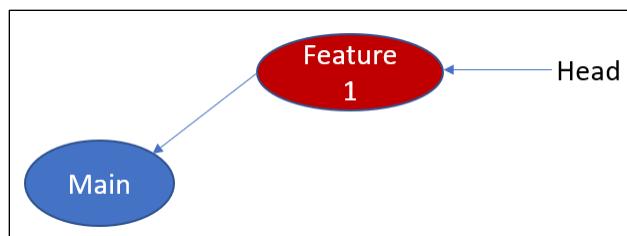
```

Update Program.cs

Description

R+

Commit to main



```

> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
SESA560987@DESKTOP-D21661F > C:\GitHub\CommandLine\ProGitForProgrammers > `main ≡
> git pull
Already up to date.
SESA560987@DESKTOP-D21661F > C:\GitHub\CommandLine\ProGitForProgrammers > `main ≡
> git branch Calculator
SESA560987@DESKTOP-D21661F > C:\GitHub\CommandLine\ProGitForProgrammers > `main ≡
> git checkout Calculator
Switched to branch 'Calculator'.
SESA560987@DESKTOP-D21661F > C:\GitHub\CommandLine\ProGitForProgrammers > `Calculator ≡

```

Create a new branch

Branch name:

Based on:

Checkout branch

Create **Cancel**

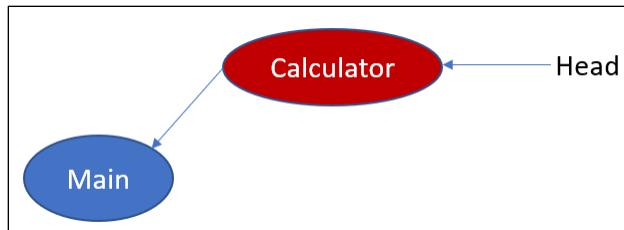
Git Repository...rProgrammers

Branches

Type here to filter the list

- ProGitForProgrammers (Book)
 - Book
 - main

remotes/origin

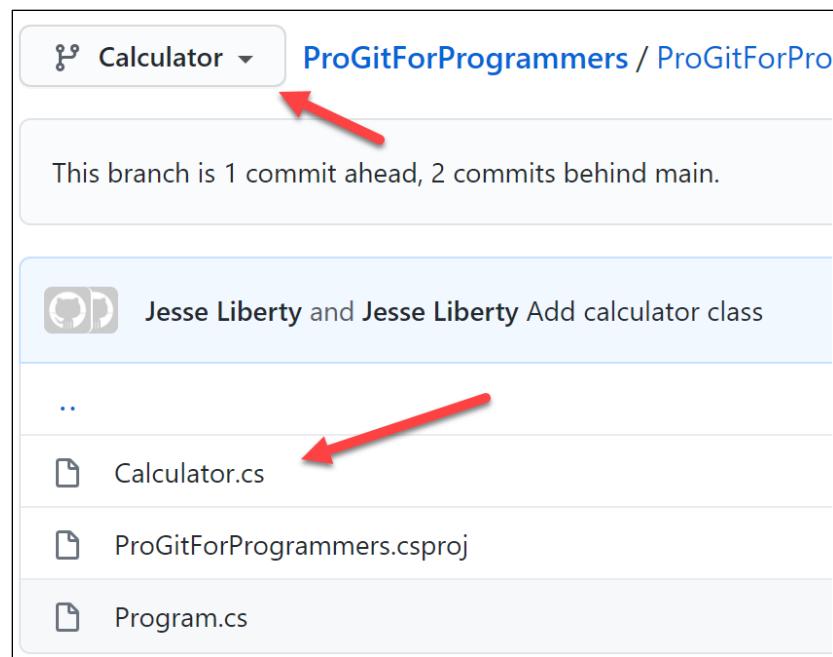
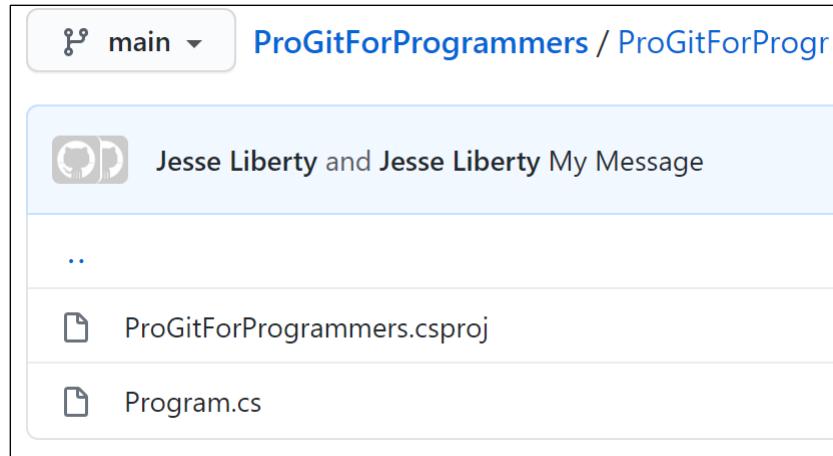


```

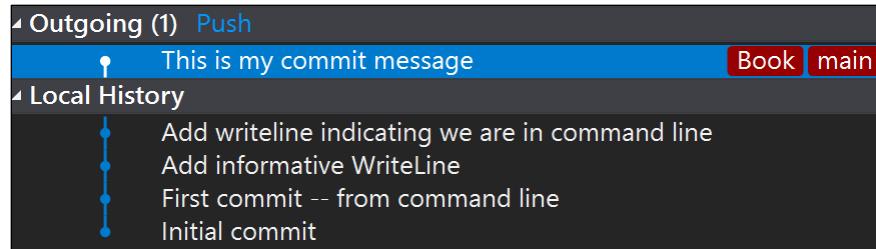
> git push
fatal: The current branch Calculator has no upstream branch.
To push the current branch and set the remote as upstream, use

git push --set-upstream origin Calculator

SESA560987@DESKTOP-D21661F > C:\GitHub\CommandLine\ProGitForProgrammers > / Calculator
> git push --set-upstream origin Calculator
Enumerating objects: 37, done.
Counting objects: 100% (37/37), done.
Delta compression using up to 16 threads
Compressing objects: 100% (37/37), done.
Writing objects: 100% (37/37), 6.94 KiB | 710.00 KiB/s, done.
Total 37 (delta 19), reused 4 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (19/19), done.
remote:
remote: Create a pull request for 'Calculator' on GitHub by visiting:
remote:     https://github.com/JesseLiberty/ProGitForProgrammers/pull/new/Calculator
remote:
To github.com:JesseLiberty/ProGitForProgrammers.git
 * [new branch]      Calculator -> Calculator
Branch 'Calculator' set up to track remote branch 'Calculator' from 'origin'.
  
```



```
> git log --oneline
4f9817b (HEAD -> Calculator) Add the add method
e5c4db9 (origin/Calculator) Add calculator class
b00ca09 (origin/main, origin/HEAD, main, featureOne) Demonstrating the staging area
4ac9d40 Add a line to program to indicate why it was added
ef16f81 Add writeline indicating we are in command line
d418600 Add informative WriteLine
a3f085e First commit -- from command line
a5798e1 Initial commit
```



```
0 references | 0 authors, 0 changes
public class Book
{
    0 references | 0 authors, 0 changes
    public string Title {get; set;}
    0 references | 0 authors, 0 changes
    public List<string> Authors {get; set;}
    0 references | 0 authors, 0 changes
    public DateTime PublicationDate {get; set;}
}
```

```
0 references | 0 authors, 0 changes
public class Movie
{
    0 references | 0 authors, 0 changes
    public string Title {get; set;}
    0 references | 0 authors, 0 changes
    public List<string> Actors {get; set;}
}
```

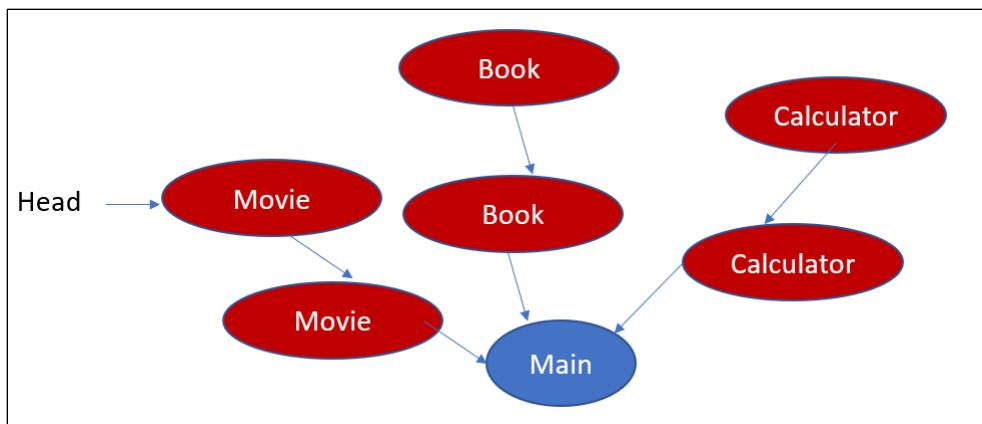
The screenshot shows a Git commit interface. The top bar includes File, Edit, View, Repository, Branch, Help, Current repository (ProGitForProgrammers), Current branch (Movie), and Publish branch (Publish this branch to GitHub). The main area shows a diff of Movie.cs with the following code:

```

@@ -4,7 +4,9 @@ using System.Text;
namespace ProGitForProgrammers
{
- class Movie
+ public class Movie
{
+     public string Title {get; set;}
+     public List<string> Actors {get; set;}
}

```

On the left, a note says "Add two properties to Movie and make the class pub". A text input field contains "Add Title and Actors". Below it is a "Commit to Movie" button. At the bottom, it says "Committed a minute ago" and "Create Movie.cs".



```

> git status
On branch Calculator
Your branch is ahead of 'origin/Calculator' by 1 commit.
  (use "git push" to publish your local commits)

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:   ProGitForProgrammers/ProGitForProgrammers/Calculator.cs

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

```

```
> git status
On branch Calculator
Your branch is ahead of 'origin/Calculator' by 1 commit.
  (use "git push" to publish your local commits)

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   ProGitForProgrammers/ProGitForProgrammers/Calculator.cs
```

```
> git log --oneline
8434d6d (HEAD → Calculator) Add integer division method
b03ce53 Add multiply method
4f9817b Add the add method
e5c4db9 (origin/Calculator) Add calculator class
```

The screenshot shows a GitHub commit page for the 'Calculator' branch. The commit details are as follows:

- Author:** Jesse Liberty
- Commit Message:** Add calculator class
- Contributors:** 0
- File Statistics:** 10 lines (9 sloc) | 139 Bytes
- Code Snippet:**

```
1  using System;
2  using System.Collections.Generic;
3  using System.Text;
4
5  namespace ProGitForProgrammers
6  {
7      class Calculator
8      {
9      }
10 }
```

[3] 0 ↗ ProGitForProgrammers

| Outgoing (3) Push | | | | | | |
|-------------------|--|------------|------------|----------|----------|----------------|
| | | | Calculator | Jesse... | 2/8/2... | 8434d.. |
| • | Add integer division method | | | Jesse... | 2/8/2... | b03ce.. |
| • | Add multiply method | | | Jesse... | 2/7/2... | 4f981... |
| • | Add the add method | | | Jesse... | 2/7/2... | e5c4d.. |
| Local History | | | | | | |
| | | | | Jesse... | 2/7/2... | b00ca.. |
| • | Add calculator class | | | Jesse... | 2/7/2... | 4ac9d.. |
| • | Demonstrating the staging area | featureOne | main | Jesse... | 2/3/2... | ef16f8.. |
| • | Add a line to program to indicate why it was added | | | Jesse... | 2/2/2... | d4186.. |
| • | Add writeline indicating we are in command line | | | Jesse... | 2/1/2... | a3f08.. |
| • | Add informative WriteLine | | | Jesse... | 2/1/2... | a5798.. |
| • | First commit -- from command line | | | Jesse... | 2/1/2... | Initial commit |

Owner * Repository name *

JesseLiberty / Contacts ✓

Great repository names are short and memorable. Need inspiration? How about [turbo-parakeet](#)?

Description (optional)

Challenge for chapter 3

Public
Anyone on the internet can see this repository. You choose who can commit.

Private
You choose who can see and commit to this repository.

Initialize this repository with:
Skip this step if you're importing an existing repository.

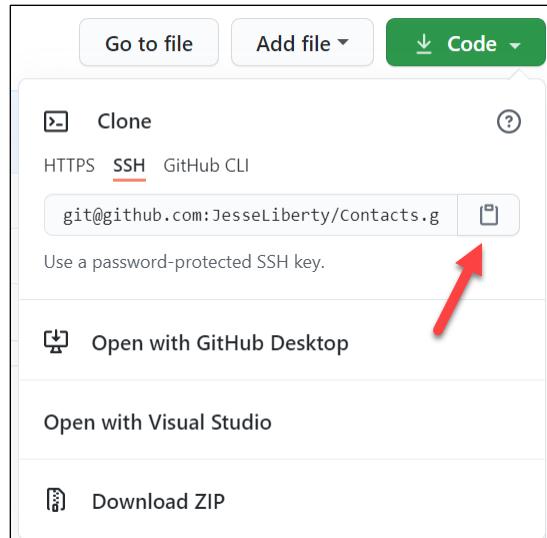
Add a README file
This is where you can write a long description for your project. [Learn more](#).

Add .gitignore
Choose which files not to track from a list of templates. [Learn more](#).

.gitignore template: [VisualStudio](#) ▾

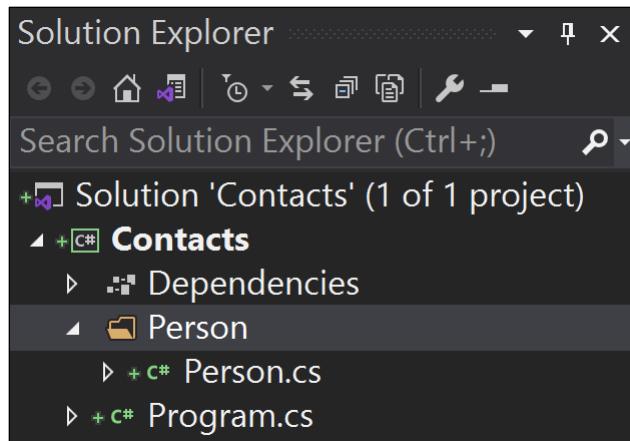
Choose a license
A license tells others what they can and can't do with your code. [Learn more](#).

License: [MIT License](#) ▾



```
SESA560987@DESKTOP-D21661F ➤ C:\GitHub
> git clone git@github.com:JesseLiberty/Contacts.git
Cloning into 'Contacts' ...
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (5/5), done.
SESA560987@DESKTOP-D21661F ➤ C:\GitHub
> cd Contacts
SESA560987@DESKTOP-D21661F ➤ C:\GitHub\Contacts ➤ main
```

```
> git branch person
SESA560987@DESKTOP-D21661F ➤ C:\GitHub\Contacts ➤ main
> git checkout person
Switched to branch 'person'
SESA560987@DESKTOP-D21661F ➤ C:\GitHub\Contacts ➤ person
```



```
└─ namespace Contacts.Person
    {
        public class Person
        {
            public string Name {get; set;}
            public double Age {get; set;}
            public string SSN {get; set;}
        }
    }

```

```
> git log --oneline
11551f3 (HEAD → person) Added SSN
49bd5de Added age
f5ee20b Added name
1174250 (origin/main, origin/HEAD, main) Initial commit
```

```
> git push
fatal: The current branch person has no upstream branch.
To push the current branch and set the remote as upstream, use

    git push --set-upstream origin person

SESA560987@DESKTOP-D21661F ▶ C:\GitHub\Contacts ➔ ↵ person ➔
> git push --set-upstream origin person
Enumerating objects: 22, done.
Counting objects: 100% (22/22), done.
Delta compression using up to 16 threads
Compressing objects: 100% (18/18), done.
Writing objects: 100% (21/21), 2.34 KiB | 480.00 KiB/s, done.
Total 21 (delta 4), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (4/4), done.
remote:
remote: Create a pull request for 'person' on GitHub by visiting:
remote:     https://github.com/JesseLiberty/Contacts/pull/new/person
remote:
To github.com:JesseLiberty/Contacts.git
 * [new branch]      person → person
Branch 'person' set up to track remote branch 'person' from 'origin'.
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\Contacts ➔ ↵ person ➔
```

main ▾ 2 branches 0 tags

JesseLiberty Initial commit

| | | |
|--|------------|----------------|
| | .gitignore | Initial commit |
| | LICENSE | Initial commit |
| | README.md | Initial commit |

person ▾ Contacts / Contacts / Contacts / Person / Person.cs

Jesse Liberty Added SSN

0 contributors

14 lines (12 sloc) | 259 Bytes

```
1  using System;
2  using System.Collections.Generic;
3  using System.Text;
4
5  namespace Contacts.Person
6  {
7      public class Person
8      {
9          public string Name { get; set; }
10         public double Age { get; set; }
11         public string SSN { get; set; }
12     }
13 }
14 }
```

Chapter 4: Merging, Pull Requests, and Handling Merge Conflicts

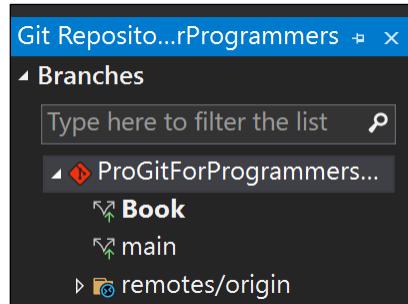
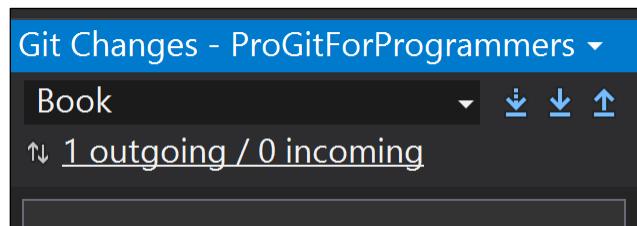
```
SESA560987@DESKTOP-D21661F > C:\GitHub\VisualStudio\ProGitForProgrammers > ↵ Book ↑1
> -
```

```
> git show
commit c3c60c3deebda09633518fa47e40a3b0ba4d0ac8 (HEAD → Book)
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Feb 8 09:08:08 2021 -0500

    Add properties

diff --git a/ProGitForProgrammers/ProGitForProgrammers/Book.cs b/ProGitForProgrammers/ProGitForProgrammers/Book.cs
new file mode 100644
index 000000..43a0844
--- /dev/null
+++ b/ProGitForProgrammers/ProGitForProgrammers/Book.cs
@@ -0,0 +1,14 @@
+ using System;
+using System.Collections.Generic;
+using System.Text;
+
+namespace ProGitForProgrammers
+{
+    public class Book
+    {
+        public string Title {get; set;}
+        public List<string> Authors {get; set;}
+
+        public DateTime PublicationDate {get; set;}
+    }
+}
SESA560987@DESKTOP-D21661F > C:\GitHub\VisualStudio\ProGitForProgrammers > ↵ Book ↑1
```

```
diff --git a/ProGitForProgrammers/ProGitForProgrammers/Bo
new file mode 100644
index 000000..43a0844
--- /dev/null
+++ b/ProGitForProgrammers/ProGitForProgrammers/Book.cs
```



Outgoing (1) Push

- Add properties Book

Local History

- This is my commit message main
- Add writeline indicating we are in command line
- Add informative WriteLine
- First commit -- from command line
- Initial commit

History - Program.cs Git Repository...rProgrammers

Local History

- This is my commit message c9c89fbe - Jesse Liberty <JesseLiberty@non.se.com>
- Add writeline indicating we are in command line ef16f813 - Jesse Liberty <JesseLiberty@non.se.com>
- Add informative WriteLine d418600b - Jesse Liberty <JesseLiberty@non.se.com>
- First commit -- from command line a3f085e0 - Jesse Liberty <JesseLiberty@non.se.com>

History - Program.cs Git Repository...rProgrammers

Program.cs;ef16f813

Miscellaneous Files -> ProGitForProgrammers.I -> Main(string[] args)

```

1 using System;
2
3 namespace ProGitForProgrammers
4 {
5     class Program
6     {
7         static void Main(string[] args)
8         {
9             Console.WriteLine("Hello World!");
10            Console.WriteLine("I just added this in Visual Studio");
11            Console.WriteLine("I just added this in the command line");
12        }
13    }
14 }
15

```

Program.cs;c9c89fbe

Miscellaneous Files -> ProGitForProgrammers.F -> Main(string[] args)

```

1 using System;
2
3 namespace ProGitForProgrammers
4 {
5     class Program
6     {
7         static void Main(string[] args)
8         {
9             Console.WriteLine("Hello World!");
10            Console.WriteLine("I just added this in Visual Studio");
11            Console.WriteLine("I just added this in the command line");
12            Console.WriteLine("This line added to show the state of the file");
13        }
14    }
15 }
16

```

Diff - Program.cs;c9c89fbe

Commit Details - ProGitForProgrammers

Commit c3c60c3d

Jesse Liberty <JesseLiberty@non.se.com> 2/8/2021 9:08:08 AM

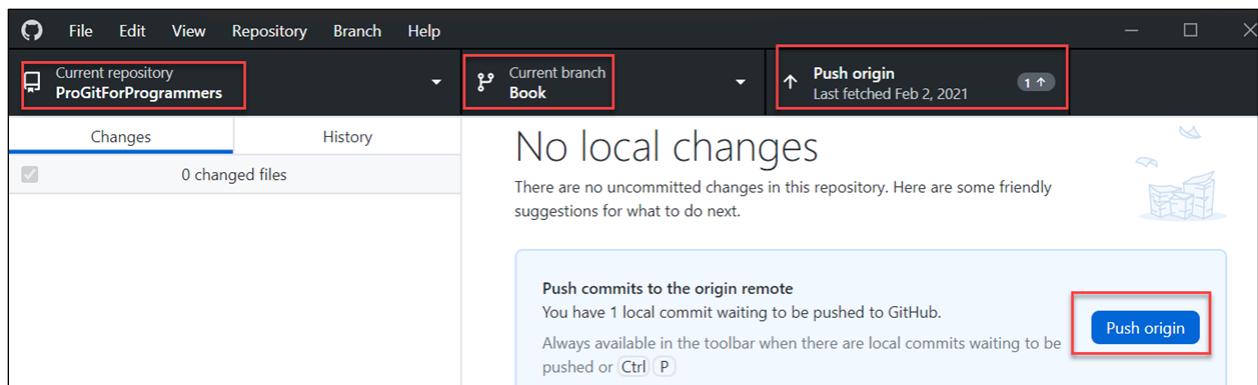
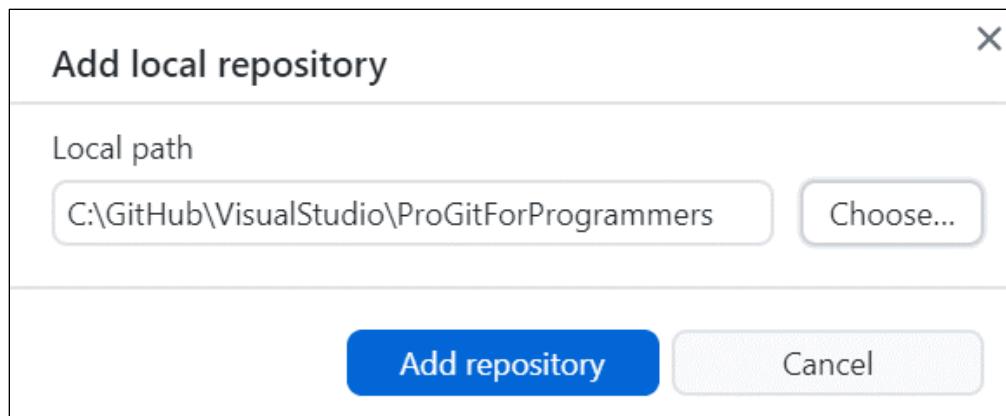
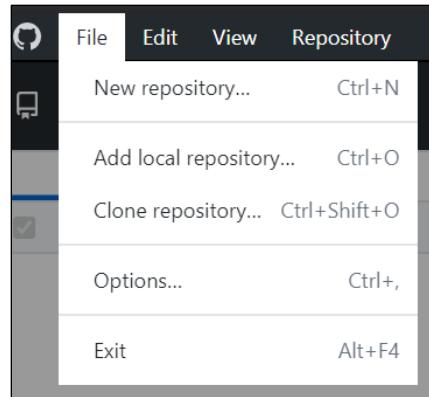
Parent: c9c89fbe

Add properties

Revert | Amend Message | Reset | Create Tag | Actions

Changes (1)

| Name | Path |
|------------|--------------|
| c# Book.cs | ProGitF... A |



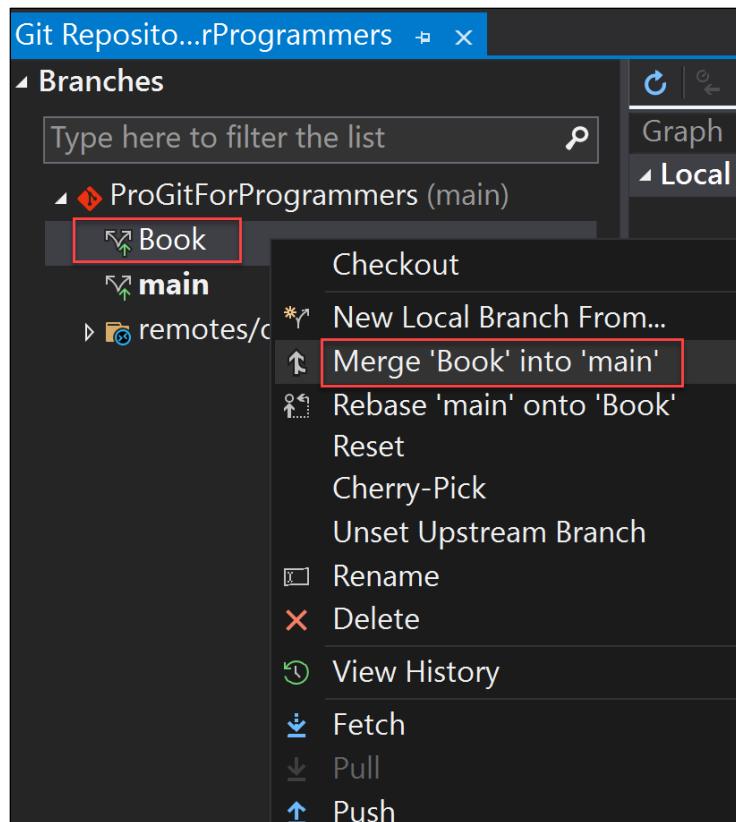
The screenshot shows a Git commit interface with the following details:

- Current repository:** ProGitForProgrammers
- Current branch:** Book
- Last fetched:** 4 minutes ago
- Changes:** 1 changed file (Book.cs)
- Add properties:** Jesse Liberty • 6d
- This is my commit message:** Jesse Liberty • Feb 7, 2021
- Add writeline indicating we are in command line:** Jesse Liberty • Feb 2, 2021
- Add informative WriteLine:** Jesse Liberty • Feb 2, 2021
- First commit -- from command line:** Jesse Liberty • Feb 1, 2021
- Initial commit:** Jesse Liberty • Feb 1, 2021

The right pane displays the diff for Book.cs:

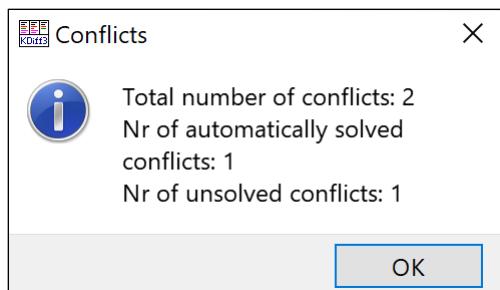
```
@@ -0,0 +1,14 @@
1 +using System;
2 +using System.Collections.Generic;
3 +using System.Text;
4 +
5 +namespace ProGitForProgrammers
6 +{
7 +    public class Book
8 +    {
9 +        public string Title {get; set;}
10 +       public List<string> Authors {get; set;}
11 +
12 +        public DateTime PublicationDate {get; set;}
13 +    }
14 +}
```

```
> git push
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 16 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 601 bytes | 300.00 KiB/s, done.
Total 5 (delta 2), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To github.com:JesseLiberty/ProGitForProgrammers.git
 c9c89fb..c3c60c3 Book → Book
```



```
> git pull
Auto-merging ProGitForProgrammers/ProGitForProgrammers/Program.cs
CONFLICT (content): Merge conflict in ProGitForProgrammers/ProGitForProgrammers/Program.cs
Automatic merge failed; fix conflicts and then commit the result.
SESA560987@DESKTOP-D21661F > C:\GitHub\VisualStudio\ProGitForProgrammers > { main ↑1 ↓4 +0 ~0 -0 !1 }
```

```
[merge]
    tool = kdiff3
[mergetool]
    prompt = false
    keepBackup = false
    keepTemporaries = false
[mergetool "kdiff3"]
    path = c:kdiff3\\kdiff3
```



```
using System;
namespace ProGitForProgrammers
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Hello World!");
            Console.WriteLine("I just added this in Visual Studio");
            Console.WriteLine("I just added this in the command line repo");
            Console.WriteLine("This line added to show the staging area");
```

```
using System;
namespace ProGitForProgrammers
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Hello World!");
            Console.WriteLine("I just added this in Visual Studio");
            Console.WriteLine("I just added this in the command line repo");
            Console.WriteLine("This line added to demonstrate messages.");
            Console.WriteLine("This line added to show the staging area");
```

Output: C:\GitHub\VisualStudio\ProGitForProgrammers\ProGitForProgrammers\Program.cs

```
using System;

namespace ProGitForProgrammers
{
    class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Hello World!");
            Console.WriteLine("I just added this in Visual Studio");
            Console.WriteLine("I just added this in the command line repo");
<Merge Conflict>
            Console.WriteLine("This line added to show the staging area");
```

```
class Program
{
    static void Main(string[] args)
    {
        Console.WriteLine("Hello World!");
        Console.WriteLine("I just added this
        Console.WriteLine("I just added this
<Merge Conflict>
        Console.Wr: A Select Line(s) From A Ctrl+1
                    B Select Line(s) From B Ctrl+2
```

```
On branch main
Your branch and 'origin/main' have diverged,
and have 1 and 4 different commits each, respectively.
(use "git pull" to merge the remote branch into yours)

All conflicts fixed but you are still merging.
(use "git commit" to conclude merge)

Changes to be committed:
  modified:  ProGitForProgrammers/ProGitForProgrammers/Program.cs
```

```

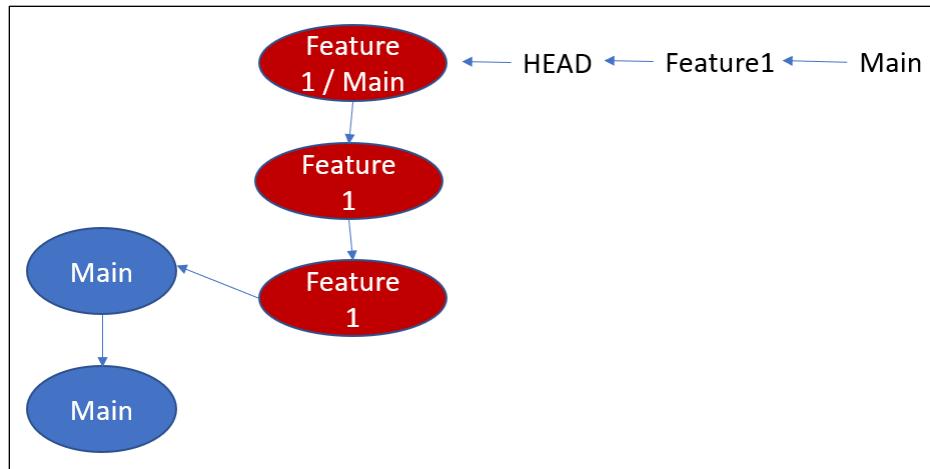
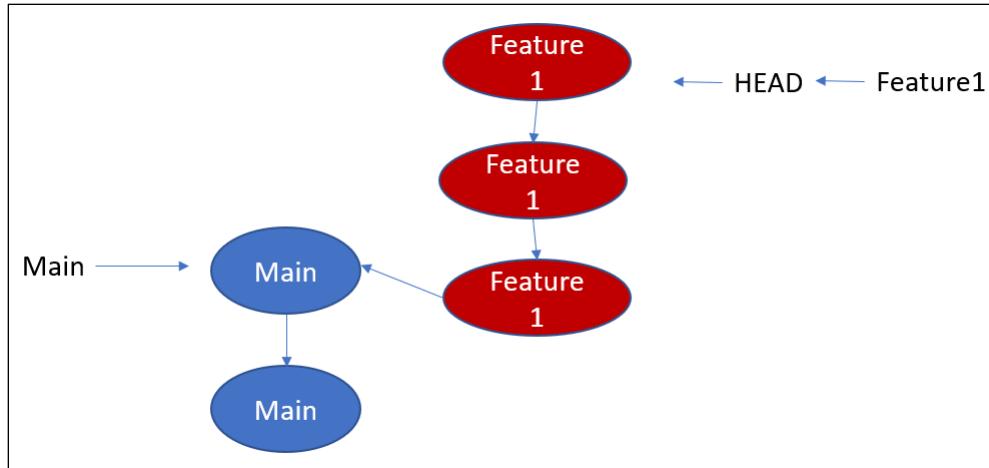
> git add .
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\VisualStudio\ProGitForProgrammers ▶ ↵ main ↑1 ↓4
> git commit
[main 9de1dc1] Merge branch 'main' of github.com:JesseLiberty/ProGitForProgrammers
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\VisualStudio\ProGitForProgrammers ▶ ↵ main ↑2
> git push
Enumerating objects: 1, done.
Counting objects: 100% (1/1), done.
Writing objects: 100% (1/1), 252 bytes | 252.00 KiB/s, done.
Total 1 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:JesseLiberty/ProGitForProgrammers.git
  8543803..9de1dc1  main → main
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\VisualStudio\ProGitForProgrammers ▶ ↵ main ≡

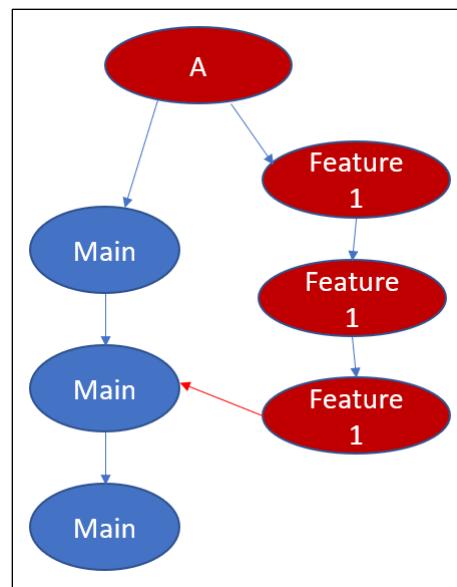
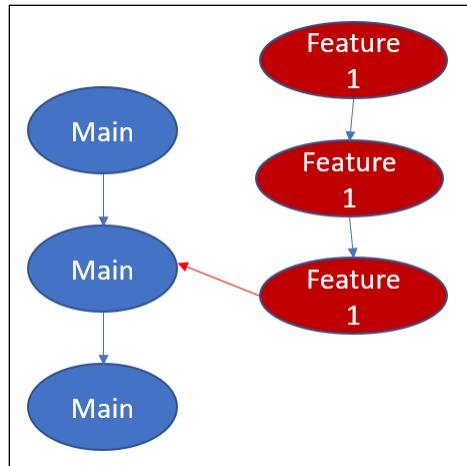
```

```

> git co main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\VisualStudio\ProGitForProgrammers ▶ ↵ main ≡
> git merge book
Merge made by the 'recursive' strategy.
  ProGitForProgrammers/ProGitForProgrammers/Book.cs | 14 ++++++
  1 file changed, 14 insertions(+)
  create mode 100644 ProGitForProgrammers/ProGitForProgrammers/Book.cs

```





main ▾ 1 branch 0 tags Go to file Add file ▾ Code ▾

JesseLiberty Update README.md ... 566d4fc 20 seconds ago 3 commits

.gitignore Initial commit 3 minutes ago

LICENSE Initial commit 3 minutes ago

README.md Update README.md 20 seconds ago

README.md

UtilityKnife

A demo program of two feature branches

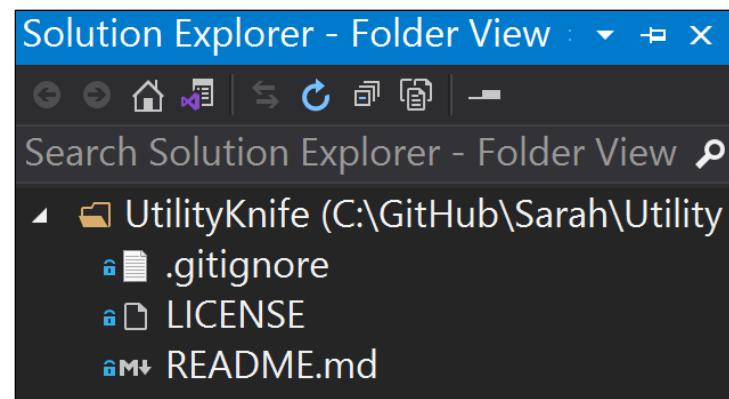
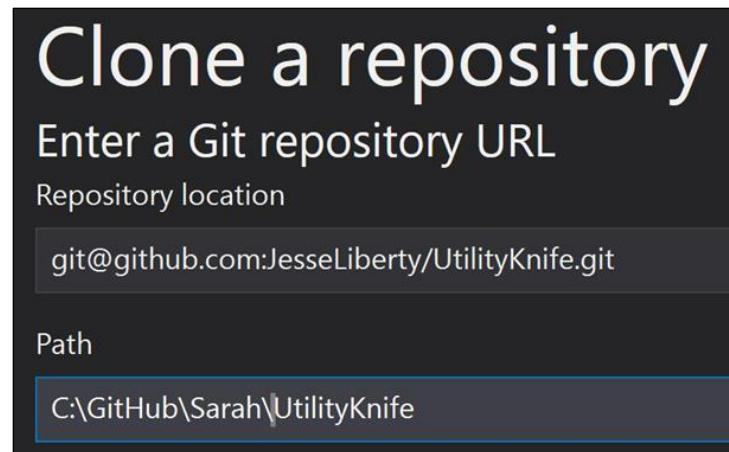
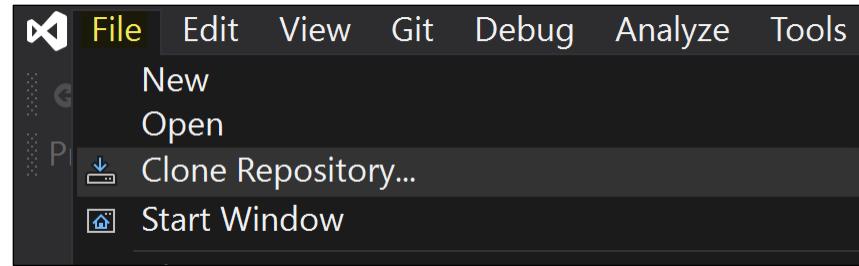
This is a demonstration program for the book *Pro Git For Professional Programmers*

```
SESA560987@DESKTOP-D21661F ➤ C:\GitHub
> mkdir John

Directory: C:\GitHub

Mode LastWriteTime Length Name
---- ----- ----- -----
d--- 2/15/2021 8:12 AM John

SESA560987@DESKTOP-D21661F ➤ C:\GitHub
> cd John
SESA560987@DESKTOP-D21661F ➤ C:\GitHub\John
> git clone git@github.com:JesseLiberty/UtilityKnife.git
Cloning into 'UtilityKnife' ...
remote: Enumerating objects: 11, done.
remote: Counting objects: 100% (11/11), done.
remote: Compressing objects: 100% (11/11), done.
remote: Total 11 (delta 4), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (11/11), 5.20 KiB | 1.73 MiB/s, done.
Resolving deltas: 100% (4/4), done.
SESA560987@DESKTOP-D21661F ➤ C:\GitHub\John
> -
```



Configure your new project

Console App (.NET Core) C# Linux macOS Windows Console

Project name

UtilityKnife

Location

C:\GitHub\Sarah\



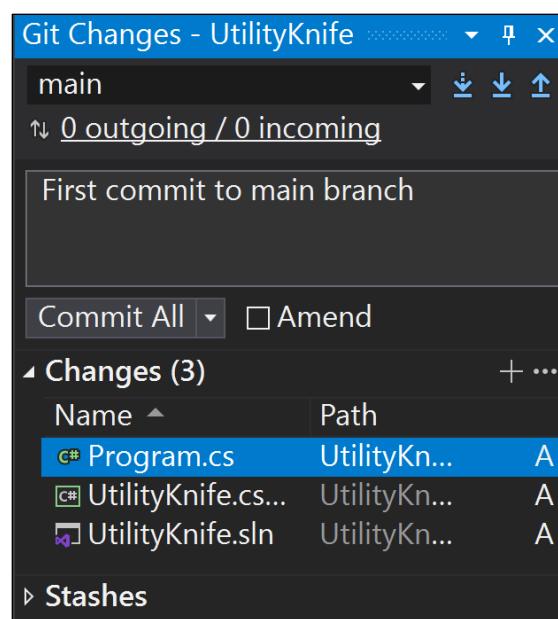
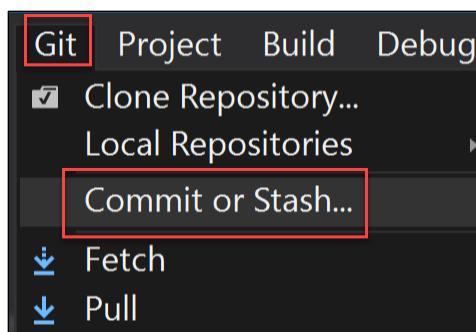
Solution

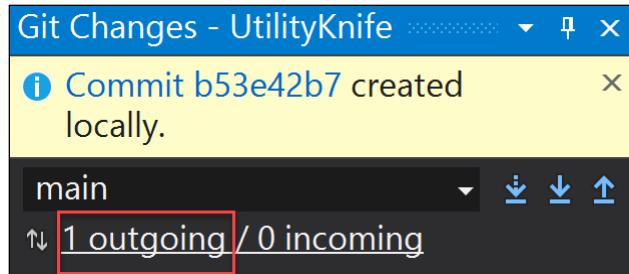
Create new solution

Solution name ⓘ

UtilityKnife

Place solution and project in the same directory





```
Directory: C:\GitHub\John

Mode           LastWriteTime      Length Name
----           -----          -----
d---          2/15/2021  8:13 AM          UtilityKnife

SESA560987@DESKTOP-D21661F ▶ C:\GitHub\John ➤
> cd UtilityKnife
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\John\UtilityKnife ➤ ↵ main ➤
> git pull
remote: Enumerating objects: 7, done.
remote: Counting objects: 100% (7/7), done.
remote: Compressing objects: 100% (6/6), done.
remote: Total 6 (delta 0), reused 6 (delta 0), pack-reused 0
Unpacking objects: 100% (6/6), 1.13 KiB | 28.00 KiB/s, done.
From github.com:JesseLiberty/UtilityKnife
  566d4fc..b53e42b  main      → origin/main
Updating 566d4fc..b53e42b
Fast-forward
  UtilityKnife.sln      | 25 ++++++=====
  UtilityKnife/Program.cs | 12 ++++++++
  UtilityKnife/UtilityKnife.csproj |  8 ++++++
  3 files changed, 45 insertions(+)
  create mode 100644 UtilityKnife.sln
  create mode 100644 UtilityKnife/Program.cs
  create mode 100644 UtilityKnife/UtilityKnife.csproj
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\John\UtilityKnife ➤ ↵ main ➤
```

```
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\John\UtilityKnife ➤ ↵ main ➤
> git checkout -b temperatureConverter
Switched to a new branch 'temperatureConverter'
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\John\UtilityKnife ➤ ↵ temperatureConverter ➤
```

```
> git status
On branch temperatureConverter
Untracked files:
  (use "git add <file> ..." to include in what will be committed)
    UtilityKnife/Converters/

nothing added to commit but untracked files present (use "git add" to track)
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↵ temperatureConverter # +1 ~0 -0 !
> git add .
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↵ temperatureConverter # +1 ~0 -0 ~
> git commit
[temperatureConverter 738a95f] Create skeleton for FtoC converter
  1 file changed, 10 insertions(+)
   create mode 100644 UtilityKnife/Converters/FahrenheitToCelsius.cs
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↵ temperatureConverter #
```

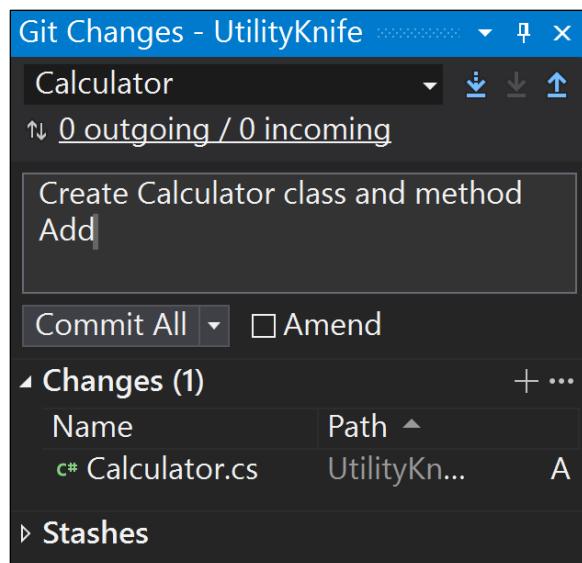
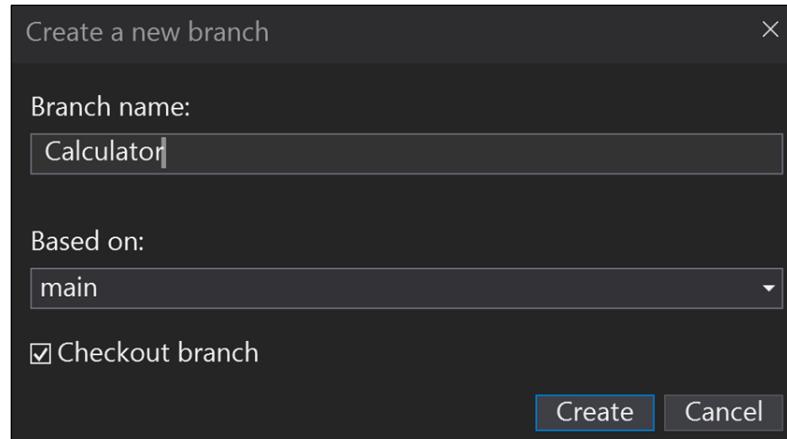
```
> git commit --amend -m "Create skeleton for FtoC converter"
[temperatureConverter 121012c] Create skeleton for FtoC converter
Date: Mon Feb 15 15:29:40 2021 -0500
  1 file changed, 10 insertions(+)
   create mode 100644 UtilityKnife/Converters/FahrenheitToCelsius.cs
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↵ temperatureConverter #
```

```
> git log --oneline
121012c (HEAD → temperatureConverter) Create skeleton for FtoC converter
```

```
> git push
fatal: The current branch temperatureConverter has no upstream branch.
To push the current branch and set the remote as upstream, use

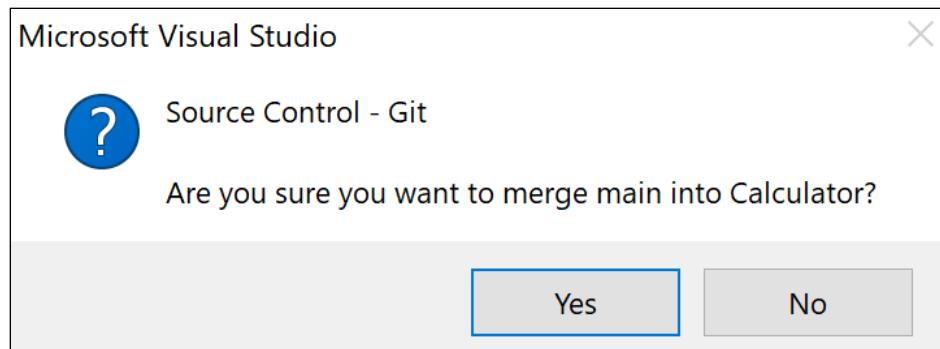
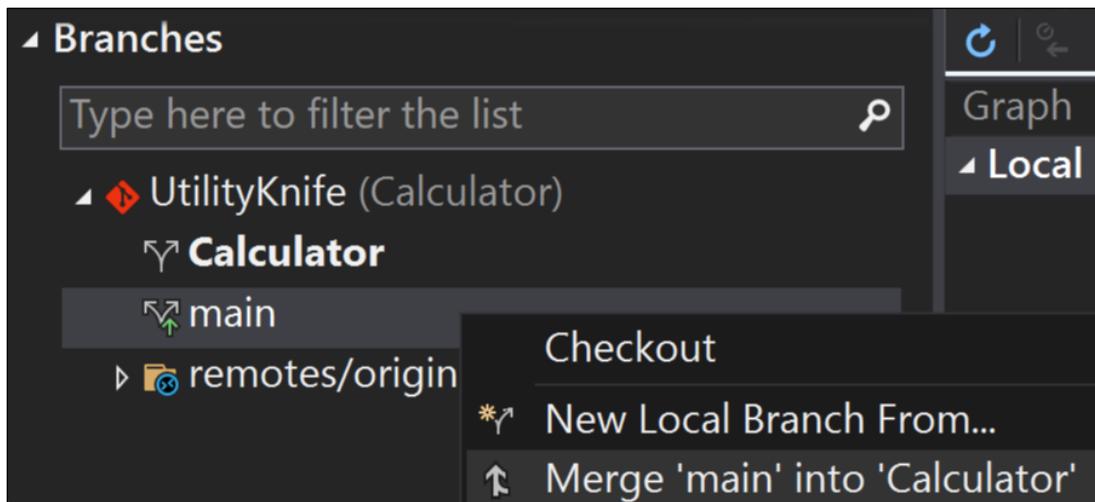
  git push --set-upstream origin temperatureConverter

SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↵ temperatureConverter #
> git push --set-upstream origin temperatureConverter
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 16 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 584 bytes | 584.00 KiB/s, done.
Total 5 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'temperatureConverter' on GitHub by visiting:
remote:   https://github.com/JesseLiberty/UtilityKnife/pull/new/temperatureConverter
remote:
To github.com:JesseLiberty/UtilityKnife.git
 * [new branch]      temperatureConverter → temperatureConverter
Branch 'temperatureConverter' set up to track remote branch 'temperatureConverter' from 'origin'.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↵ temperatureConverter #
```

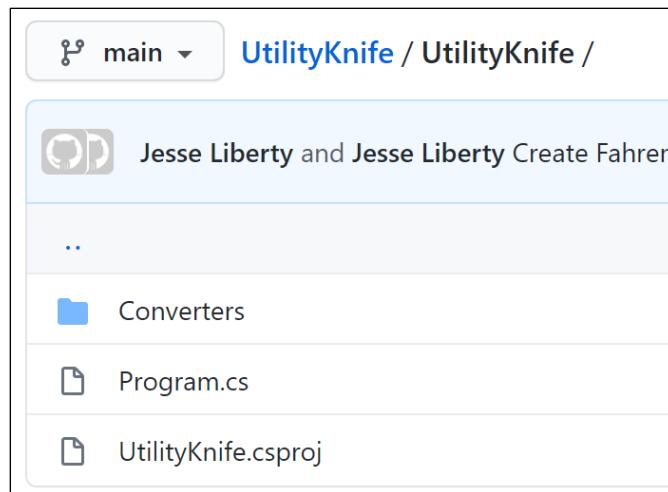
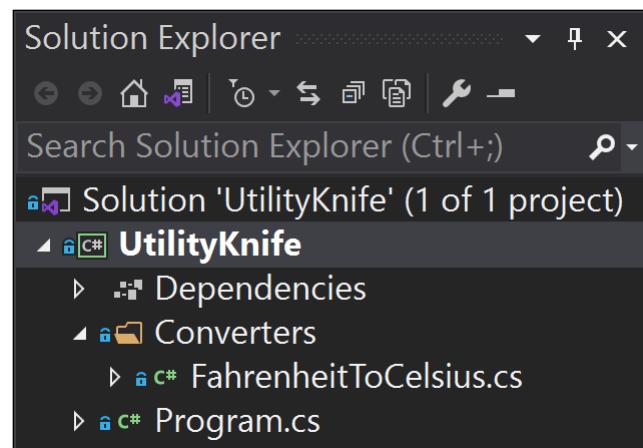
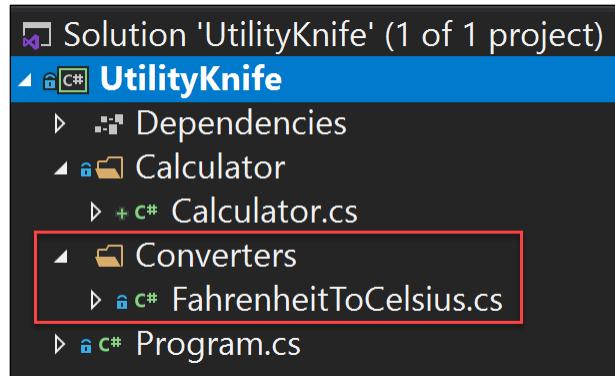


```
> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↴ main ↴
> git pull
Already up to date.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↴ main ↴
> git checkout temperatureConverter
Switched to branch 'temperatureConverter'.
Your branch is up to date with 'origin/temperatureConverter'.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↴ temperatureConverter ↴
> git merge main
Already up to date.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↴ temperatureConverter ↴
```

```
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↵ temperatureConverter =>
> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↵ main =>
> [git merge temperatureConverter]
Updating b53e42b..6e61cf7
Fast-forward
 UtilityKnife/Converters/FahrenheitToCelsius.cs | 12 ++++++
1 file changed, 12 insertions(+)
 create mode 100644 UtilityKnife/Converters/FahrenheitToCelsius.cs
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ↵ main ↑2
```



ⓘ Repository updated to commit 6e61cf7d.

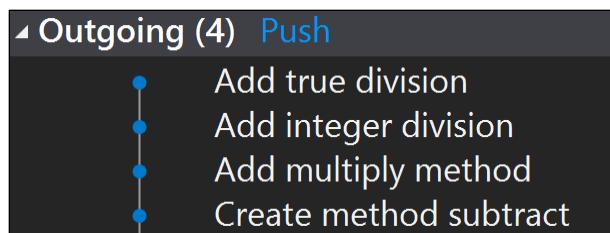


A screenshot of a GitHub commit page. At the top, there's a red box highlighting the dropdown menu next to the branch name "temperatureCon...". The dropdown menu shows "UtilityKnife / UtilityKnife /". Below the dropdown, the commit message reads "This branch is even with main.". Underneath the commit message, there's a list of files: "Converters", "Program.cs", and "UtilityKnife.csproj".

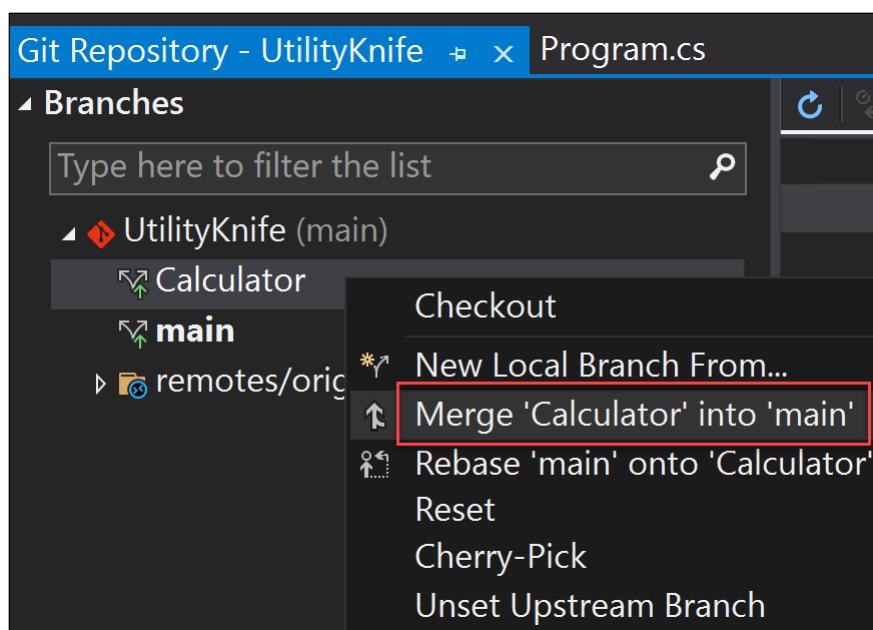
| All branches |
|---|
| <code>main</code> Updated 36 minutes ago by Jesse Liberty |
| <code>temperatureConverter</code> Updated 36 minutes ago by Jesse Liberty |

The screenshot shows the UtilityKnife interface. At the top, a blue header bar displays "Git Changes - UtilityKnife" with a progress bar, a downward arrow, a gear icon, and an "X" button. Below the header, a yellow notification bar says "Commit ec49ec01 created locally." with a close button. The main area has a dark background. A file named "Calculator" is listed with a status of "4 outgoing / 0 incoming". There are three small blue arrows (down, down-right, up) to the right of the file name. Below this, there's a large input field with placeholder text "Enter a message". At the bottom left, there are two buttons: "Commit All" with a dropdown arrow and an unchecked checkbox labeled "Amend". On the far right, there are two more small blue arrows (down-left, up-right). At the very bottom, there are two sections: "Changes" (with a minus sign and three dots) and "Stashes" (with a right-pointing arrow).

```
> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > \ main ↵
> git pull
Already up to date.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > \ main ↵
> git checkout temperatureConverter
Switched to branch 'temperatureConverter'
Your branch is up to date with 'origin/temperatureConverter'.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > \ temperatureConverter ↵
> git merge main
Already up to date.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > \ temperatureConverter ↵
```



```
> git checkout Calculator
error: pathspec 'Calculator' did not match any file(s) known to git
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > \ temperatureConverter ↵
```



```
> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > \ main ≡
> git pull
remote: Enumerating objects: 22, done.
remote: Counting objects: 100% (22/22), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 20 (delta 11), reused 20 (delta 11), pack-reused 0
Unpacking objects: 100% (20/20), 1.62 KiB | 12.00 KiB/s, done.
From github.com:JesseLiberty/UtilityKnife
  6e61cf7..ec49ec0  main      → origin/main
 * [new branch]    Calculator → origin/Calculator
Updating 6e61cf7..ec49ec0
Fast-forward
 UtilityKnife/Calculator/Calculator.cs | 29 ++++++=====
1 file changed, 29 insertions(+)
 create mode 100644 UtilityKnife/Calculator/Calculator.cs
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > \ main ≡
```



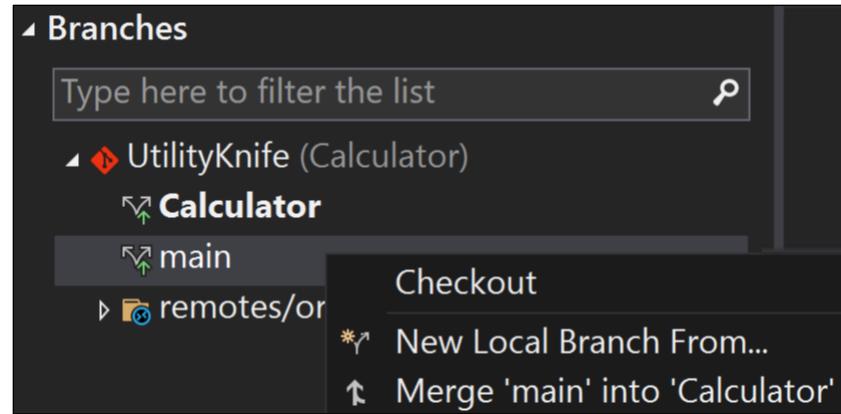
How do we merge the master branch into the feature branch? Easy:

1441

```
git checkout feature1
git merge master
```

```
> git checkout temperatureConverter
Switched to branch 'temperatureConverter'
Your branch is up to date with 'origin/temperatureConverter'.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > \ temperatureConverter ≡
> git merge main
Updating 6e61cf7..ec49ec0
Fast-forward
 UtilityKnife/Calculator/Calculator.cs | 29 ++++++=====
1 file changed, 29 insertions(+)
 create mode 100644 UtilityKnife/Calculator/Calculator.cs
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > \ temperatureConverter ↑4
```

```
> git log --oneline
ec49ec0 (HEAD → temperatureConverter, origin/temperatureConverter, origin/main, origin/HEAD,
origin/Calculator, main) Add true division
```



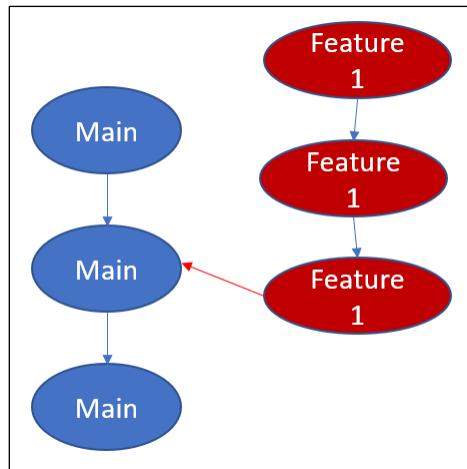
```
> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ` main ≡
> git pull
remote: Enumerating objects: 13, done.
remote: Counting objects: 100% (13/13), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 7 (delta 2), reused 7 (delta 2), pack-reused 0
Unpacking objects: 100% (7/7), 865 bytes | 14.00 KiB/s, done.
From github.com:JesseLiberty/UtilityKnife
  ec49ec0..7cf9b1  main      -> origin/main
Updating ec49ec0..7cf9b1
Fast-forward
 UtilityKnife/Calculator/Calculator.cs      | 12 ++++++-----
 UtilityKnife/Converters/FahrenheitToCelsius.cs | 12 +++++++-----
 2 files changed, 15 insertions(+), 9 deletions(-)
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ` main ≡
```

```
> git checkout temperatureConverter
Switched to branch 'temperatureConverter'
Your branch is up to date with 'origin/temperatureConverter'.
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ` temperatureConverter ≡ [08:27]
> git merge main
Updating ec49ec0..7cf9b1
Fast-forward
 UtilityKnife/Calculator/Calculator.cs      | 12 ++++++-----
 UtilityKnife/Converters/FahrenheitToCelsius.cs | 12 +++++++-----
 2 files changed, 15 insertions(+), 9 deletions(-)
SESA560987@DESKTOP-D21661F > C:\GitHub\John\UtilityKnife > ` temperatureConverter ↑1[08:27]
```

Microsoft Visual Studio Debug Console

Fahrenheit temp of 212 is 100.

Chapter 5: Rebasing, Amend, and Cherry-Picking

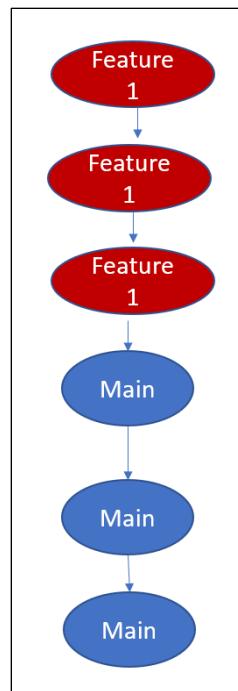
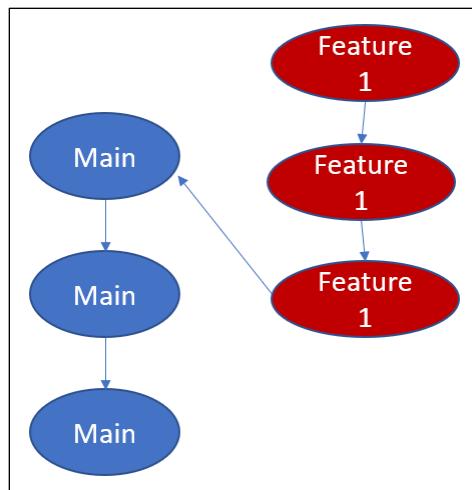


Fix wrap
f1543a06 Jesse Liberty Feb

Merged PR 5361: Clipped
e32d0b25 ws

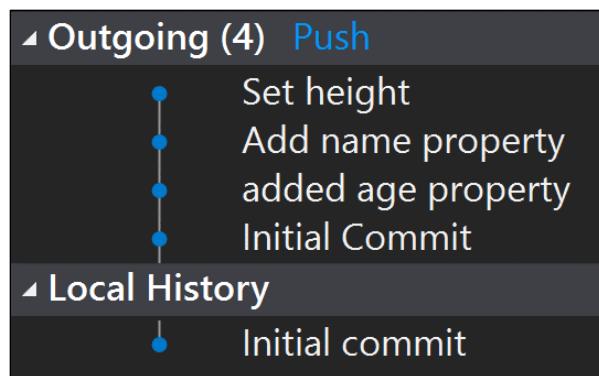
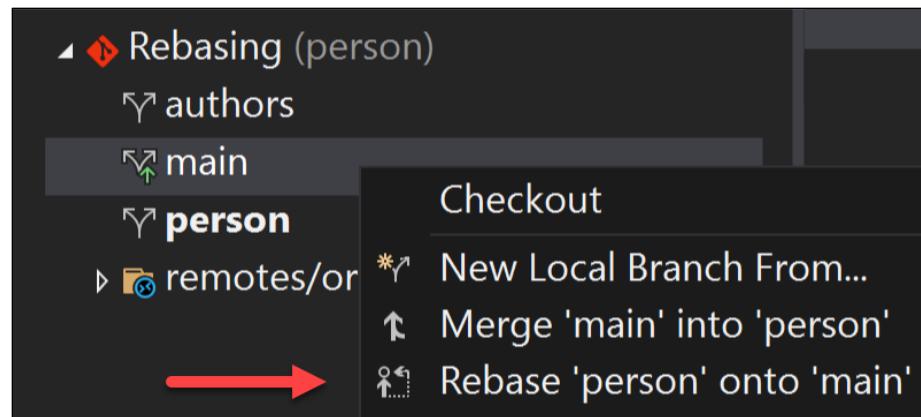
Clipped the canvas size of
d62754ff

Merged PR 5340: Success/
484b8de6 Jesse Liberty Feb



History - person ✎ x Person.cs Program.cs

| Graph | ID | Author | Date | Message |
|---------------------|----------|---------------|-----------------------|--------------------|
| ▲ Outgoing (4) Push | | | | |
| | a1620a34 | Jesse Liberty | 2/21/2021 11:29:35 AM | Set height |
| | b5979668 | Jesse Liberty | 2/21/2021 11:27:18 AM | Add name property |
| | 09e464b6 | Jesse Liberty | 2/21/2021 11:26:10 AM | added age property |
| | b05e3419 | Jesse Liberty | 2/21/2021 11:22:20 AM | Initial Commit |
| ▲ Local History | | | | |
| | 8c44f7a8 | Jesse Liberty | 2/21/2021 11:13:54 AM | Initial commit |

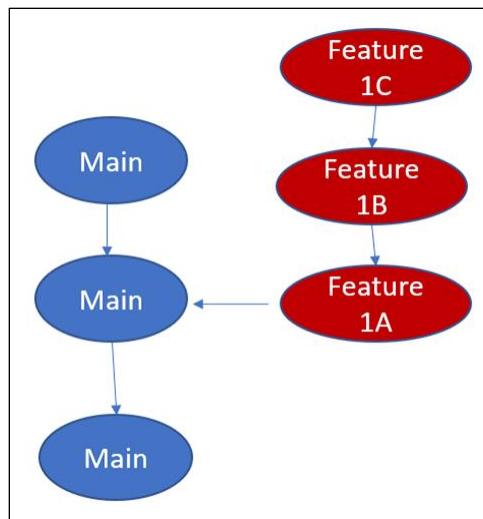


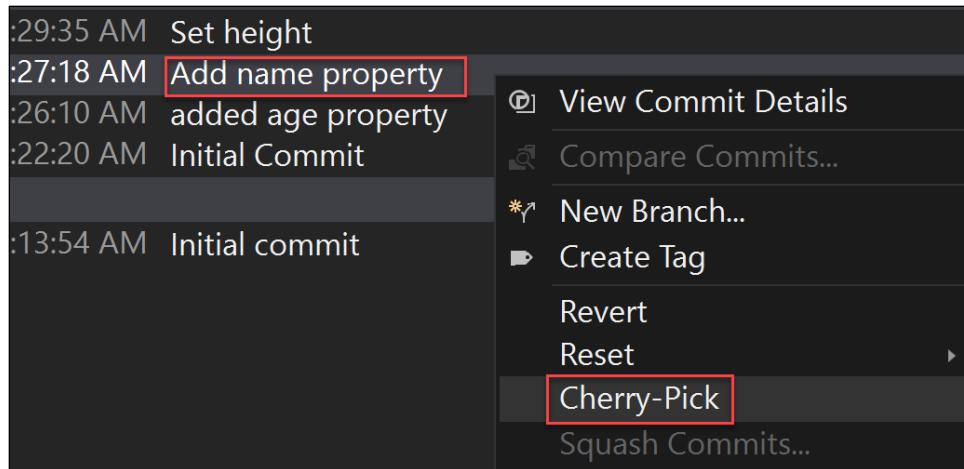
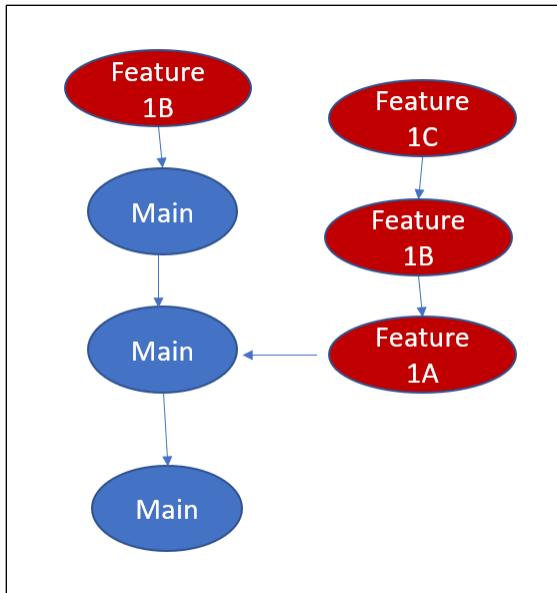
```
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\Rebasing ▶ { person ≠
> git log --name-only --oneline
d61ffe0 (HEAD → person) Set height
Rebasing/Rebasing/Person.cs
6da241a Add name property
Rebasing/Rebasing/Person.cs
75c3382 added age property
Rebasing/Rebasing/Person.cs
7d77c7b Initial Commit
Rebasing/Rebasing.sln
Rebasing/Rebasing/Person.cs
Rebasing/Rebasing/Program.cs
Rebasing/Rebasing/Rebasing.csproj
8c44f7a (origin/main, origin/HEAD, main, authors) Initial commit
.gitignore
LICENSE
README.md
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\Rebasing ▶ { person ≠
```

```
> git rebase main
error: could not apply cb76bd6 ... set age to 30
Resolve all conflicts manually, mark them as resolved with
"git add/rm <conflicted_files>", then run "git rebase --continue".
You can instead skip this commit: run "git rebase --skip".
To abort and get back to the state before "git rebase", run "git rebase --abort".
Could not apply cb76bd6 ... set age to 30
Auto-merging Rebasing/Rebasing/Person.cs
CONFLICT (content): Merge conflict in Rebasing/Rebasing/Person.cs
```

```
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\Rebasing ▶ ↵ person ↑1
> git add rebasing/rebasing/program.cs
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\Rebasing ▶ ↵ person ↑1
> git commit --amend
[person f5eba62] add person and in person add weight
Date: Sun Feb 21 11:48:14 2021 -0500
1 file changed, 5 insertions(+), 3 deletions(-)
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\Rebasing ▶ ↵ person ↑1
> -
```

```
> git log --oneline
3174c3b (HEAD → person) Add person and Person's weight property
d61ffe0 (origin/person) Set height
6da241a Add name property
75c3382 added age property
7d77c7b Initial Commit
8c44f7a (origin/main, origin/HEAD, main, authors) Initial commit
```





Owner * Repository name *

 JesseLiberty / Panofy ✓

Great repository names are short and memorable. Need inspiration? How about [legendary-funicular?](#)

Description (optional)

A demo program for Pro Git for Professional Programmers

 Public
Anyone on the internet can see this repository. You choose who can commit.

 Private
You choose who can see and commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

Add a README file
This is where you can write a long description for your project. [Learn more.](#)

Add .gitignore
Choose which files not to track from a list of templates. [Learn more.](#)
.gitignore template: [VisualStudio](#) ▾

Choose a license
A license tells others what they can and can't do with your code. [Learn more.](#)
License: [MIT License](#) ▾

This will set  main as the default branch. Change the default name in your [settings](#).

Grant your Marketplace apps access to this repository

You are subscribed to 1 Marketplace app

 Slack + GitHub
Connect your code without leaving Slack

Create repository

```
> cd DirA
SESA560987@DESKTOP-D21661F ➤ C:\GitHub\DirA ➤
> git clone git@github.com:JesseLiberty/Panofy.git
Cloning into 'Panofy' ...
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (5/5), done.
SESA560987@DESKTOP-D21661F ➤ C:\GitHub\DirA ➤
```

```
[main c507abf] Add Hello message ←
  1 file changed, 1 insertion(+)
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirB\Panofy ▶ ↵ main ↑1
> git push ←
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 16 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 513 bytes | 256.00 KiB/s, done.
Total 5 (delta 3), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (3/3), completed with 3 local objects.
To github.com:JesseLiberty/Panofy.git
  3c9929c..c507abf main → main
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirB\Panofy ▶ ↵ main ≡
> cd ../../DirA/Panofy ←
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ main ≡
> git pull ←
remote: Enumerating objects: 9, done.
remote: Counting objects: 100% (9/9), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 5 (delta 3), reused 5 (delta 3), pack-reused 0
Unpacking objects: 100% (5/5), 493 bytes | 13.00 KiB/s, done.
From github.com:JesseLiberty/Panofy
  3c9929c..c507abf main → origin/main
Updating 3c9929c..c507abf
Fast-forward
  Panofy/Panofy/Program.cs | 1 +
  1 file changed, 1 insertion(+)
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ main ≡
> _
```

```
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡
> git status
On branch calculator
nothing to commit, working tree clean
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡
> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ main ≡
> git pull
Already up to date.
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ main ≡
> git checkout calculator
Switched to branch 'calculator'
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡
> git rebase main ←
Current branch calculator is up to date. ←
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡
```

```

> git checkout main
Switched to branch 'main' ←
Your branch is up to date with 'origin/main'.
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ main ≡
> git pull ←
remote: Enumerating objects: 8, done.
remote: Counting objects: 100% (8/8), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 5 (delta 3), reused 5 (delta 3), pack-reused 0
Unpacking objects: 100% (5/5), 541 bytes | 14.00 KiB/s, done.
From github.com:JesseLiberty/Panofy
  2ca4ad9..8d47c04  main      → origin/main
Updating 2ca4ad9..8d47c04
Fast-forward
  Panofy/Panofy/Converter.cs | 15 ++++++-----
  1 file changed, 15 insertions(+)
  create mode 100644 Panofy/Panofy/Converter.cs
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ main ≡
> git checkout calculator ←
Switched to branch 'calculator'
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡
> git rebase main ←
Successfully rebased and updated refs/heads/calculator.
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡

```

```

> git status
On branch calculator
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:   Panofy/Panofy/Calculator.cs

no changes added to commit (use "git add" and/or "git commit -a")
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡ +0 ~1 -0 !
> git commit -a -m "Add divide using doubles"
[calculator 26b5ba0] Add divide using doubles
  1 file changed, 5 insertions(+)
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡

```

```

> git status
On branch calculator
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:   Panofy/Panofy/Calculator.cs

no changes added to commit (use "git add" and/or "git commit -a")
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡ +0 ~1 -0 !
> git add .
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡ +0 ~1 -0 ~
> git commit --amend ←
[calculator 6fa0c30] Add divide using doubles and square root function ←
  Date: Mon Feb 22 14:00:28 2021 -0500
  1 file changed, 10 insertions(+)
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ≡

```

```
> git status
On branch calculator
nothing to commit, working tree clean
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ↵
> git commit --amend -m "Add real divide and square root" ↵
[calculator e49fd3d] Add real divide and square root
Date: Mon Feb 22 14:00:28 2021 -0500
1 file changed, 10 insertions(+)
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ↵
> ↵
```

```
> git log --oneline main
8d47c04 (origin/main, origin/HEAD, main) add converter skeleton
2ca4ad9 add subtract method
877348c Update csproj
c507abf Add Hello message
3c9929c Sync'ing with B
2661adc fix conflicts
edd7b01 Initial files from DirA
da77c91 First use of Panofy in Dir B
a253788 Initial commit
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ↵
> git log --oneline calculator
e49fd3d (HEAD → calculator) Add real divide and square root
972d77a add multiply and divide
8d47c04 (origin/main, origin/HEAD, main) add converter skeleton
2ca4ad9 add subtract method
877348c Update csproj
c507abf Add Hello message
3c9929c Sync'ing with B
2661adc fix conflicts
edd7b01 Initial files from DirA
da77c91 First use of Panofy in Dir B
a253788 Initial commit
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ calculator ↵
```

```
> git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ main ↵
> git cherry-pick 972d77a
[main 84bc465] add multiply and divide
Date: Mon Feb 22 12:57:14 2021 -0500
1 file changed, 11 insertions(+)
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ main ↑1
```

```
> git log --oneline main
84bc465 (HEAD → main) add multiply and divide ←
8d47c04 (origin/main, origin/HEAD) add converter skeleton
2ca4ad9 add subtract method
877348c Update csproj
c507abf Add Hello message
3c9929c Sync'ing with B
2661adc fix conflicts
edd7b01 Initial files from DirA
da77c91 First use of Panofy in Dir B
a253788 Initial commit
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\DirA\Panofy ▶ ↵ main ↑1
> git log --oneline calculator
e49fd3d (calculator) Add real divide and square root
972d77a add multiply and divide ←
8d47c04 (origin/main, origin/HEAD) add converter skeleton
2ca4ad9 add subtract method
877348c Update csproj
c507abf Add Hello message
3c9929c Sync'ing with B
2661adc fix conflicts
edd7b01 Initial files from DirA
da77c91 First use of Panofy in Dir B
a253788 Initial commit
```

Chapter 6: Interactive Rebasing

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner * Repository name *

 JesseLiberty / MusicHandler ✓

Great repository names are short and memorable. Need inspiration? How about [scaling-telegram](#)?

Description (optional)

Demo program for Pro Git for Programmers

 Public
Anyone on the internet can see this repository. You choose who can commit.

 Private
You choose who can see and commit to this repository.

Initialize this repository with:

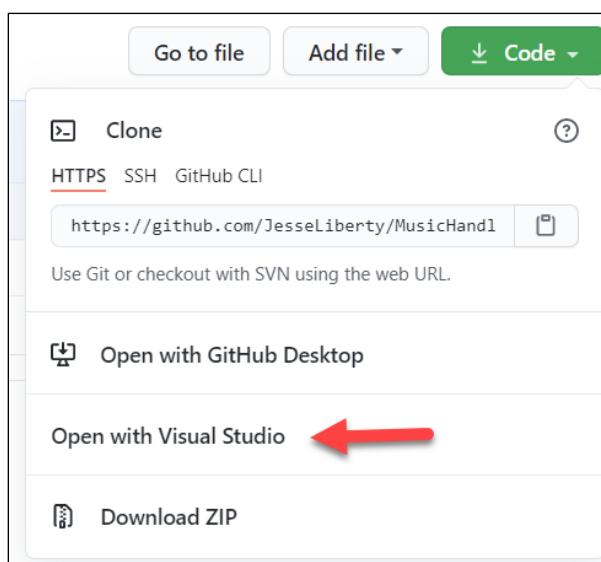
Skip this step if you're importing an existing repository.

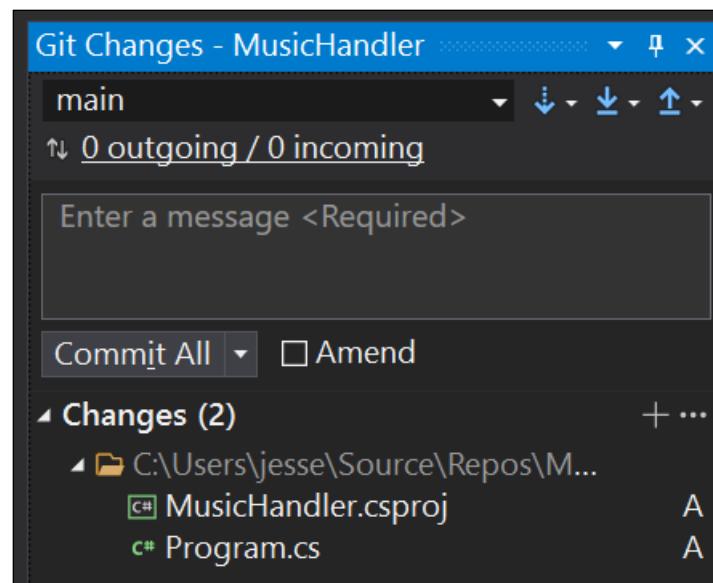
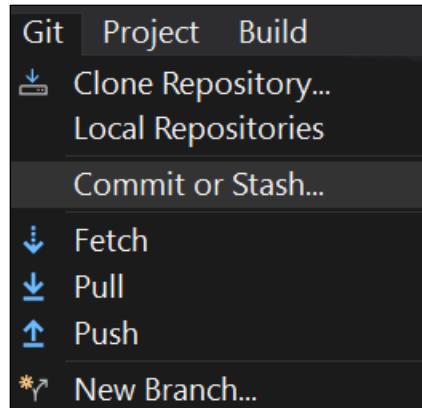
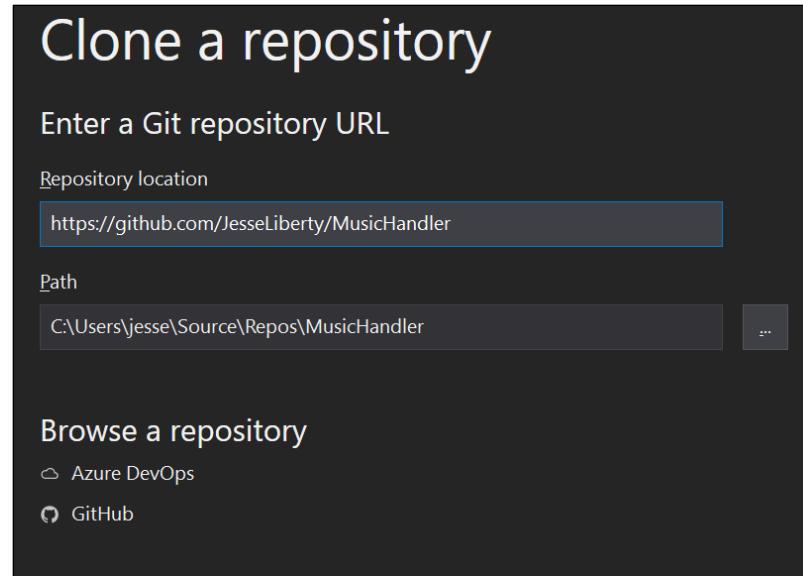
Add a README file
This is where you can write a long description for your project. [Learn more.](#)

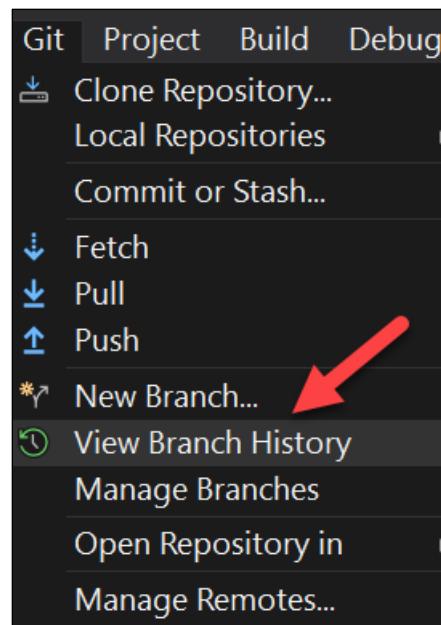
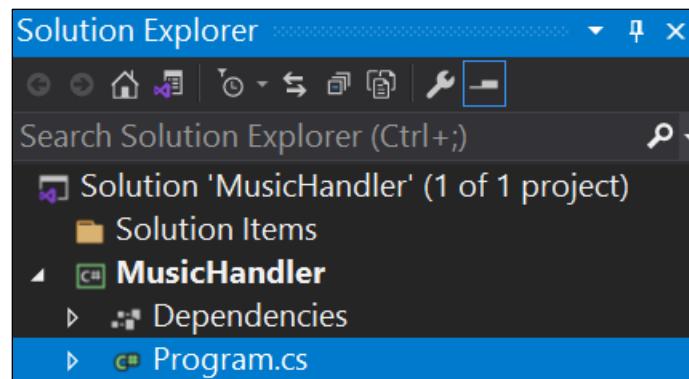
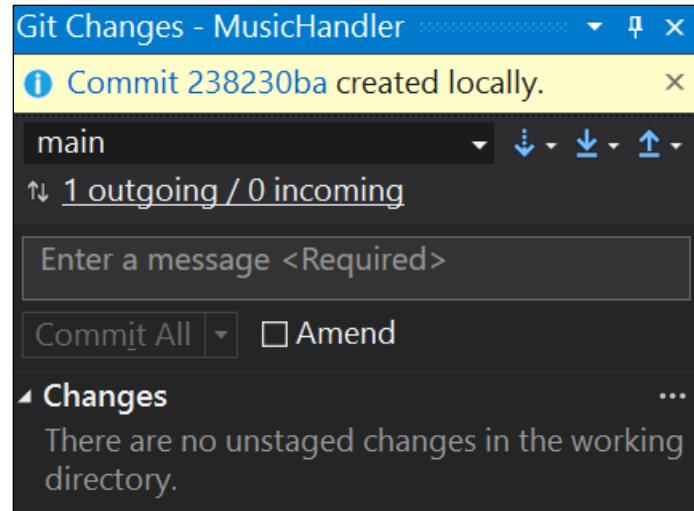
Add .gitignore
Choose which files not to track from a list of templates. [Learn more.](#)

Choose a license
A license tells others what they can and can't do with your code. [Learn more.](#)

License: MIT License ▾







| History - main | | | | |
|--------------------------|----------|---------------|----------------------|-------------------|
| | Music.cs | Program.cs | | |
| | | | | |
| Graph | ID | Author | Date | Message |
| Outgoing (5) Push | | | | |
| • | 502ec3fb | Jesse Liberty | 4/11/2021 7:30:26 AM | Add ReleaseDate |
| • | cae7e449 | Jesse Liberty | 4/11/2021 7:29:12 AM | Add Artist |
| • | f26fd45a | Jesse Liberty | 4/11/2021 7:28:42 AM | Add Name property |
| • | 8147adb7 | Jesse Liberty | 4/9/2021 12:28:04 PM | Add music class |
| • | 238230ba | Jesse Liberty | 4/8/2021 2:52:15 PM | Initial Commit |
| Local History | | | | |
| • | b6fc88fb | Jesse Liberty | 4/8/2021 2:18:06 PM | Initial commit |

| History - main | | | | |
|--------------------------|----------|---------------|----------------------|-------------------------|
| | Music.cs | Program.cs | | |
| | | | | |
| Graph | ID | Author | Date | Message |
| Outgoing (8) Push | | | | |
| • | c01b773a | Jesse Liberty | 4/11/2021 7:49:05 AM | Add Ripple |
| • | 6cff23a6 | Jesse Liberty | 4/11/2021 7:44:51 AM | Drag music into project |
| • | da483d5c | Jesse Liberty | 4/11/2021 7:41:04 AM | Fix namespace |
| • | 502ec3fb | Jesse Liberty | 4/11/2021 7:30:26 AM | Add ReleaseDate |
| • | cae7e449 | Jesse Liberty | 4/11/2021 7:29:12 AM | Add Artist |
| • | f26fd45a | Jesse Liberty | 4/11/2021 7:28:42 AM | Add Name property |
| • | 8147adb7 | Jesse Liberty | 4/9/2021 12:28:04 PM | Add music class |
| • | 238230ba | Jesse Liberty | 4/8/2021 2:52:15 PM | Initial Commit |
| Local History | | | | |
| • | b6fc88fb | Jesse Liberty | 4/8/2021 2:18:06 PM | Initial commit |

```

> git lg
* c01b773 - (HEAD → main) Add Ripple (4 minutes ago) <Jesse Liberty>
* 6cff23a - Drag music into project (8 minutes ago) <Jesse Liberty>
* da483d5 - Fix namespace (12 minutes ago) <Jesse Liberty>
* 502ec3f - Add ReleaseDate (22 minutes ago) <Jesse Liberty>
* cae7e44 - Add Artist (24 minutes ago) <Jesse Liberty>
* f26fd45 - Add Name property (24 minutes ago) <Jesse Liberty>
* 8147adb - Add music class (2 days ago) <Jesse Liberty>
* 238230b - Initial Commit (3 days ago) <Jesse Liberty>
* b6fc88f - (origin/main, origin/HEAD) Initial commit (3 days ago) <Jesse Liberty>
```

```

≡ git-rebase-todo X

C: > Users > jesse > source > repos > MusicHandler > .git > rebase-merge > ≡ git-rebase-todo
  1  pick 8147adb Add music class
  2  pick f26fd45 Add Name property
  3  pick cae7e44 Add Artist
  4  pick 502ec3f Add ReleaseDate
  5  pick da483d5 Fix namespace
  6  pick 6cff23a Drag music into project
  7  pick c01b773 Add Ripple
```

```
pick 8147adb Add music class
s f26fd45 Add Name property
s cae7e44 Add Artist
s 502ec3f Add ReleaseDate
pick da483d5 Fix namespace
pick 6cff23a Drag music into project
pick c01b773 Add Ripple
```

```
# This is a combination of 4 commits.
# This is the 1st commit message:
Add music class

# This is the commit message #2:

Add Name property
# This is the commit message #3:

Add Artist
# This is the commit message #4:
Add ReleaseDate
```

```
# This is a combination of 4 commits.
# This is the 1st commit message:

Add music class
```

```
# interactive rebase in progress; onto 238230b
# Last commands done (4 commands done):
#   squash cae7e44 Add Artist
#   squash 502ec3f Add ReleaseDate
# Next commands to do (3 remaining commands):
#   pick da483d5 Fix namespace
#   pick 6cff23a Drag music into project
# You are currently rebasing branch 'main' on '238230b'.
#
```

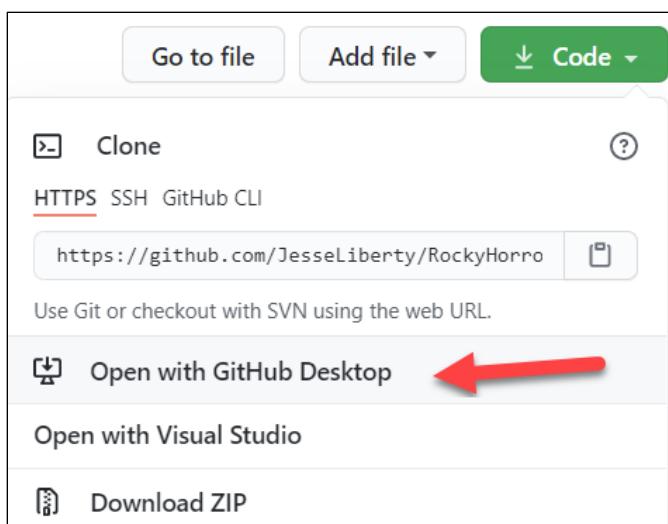
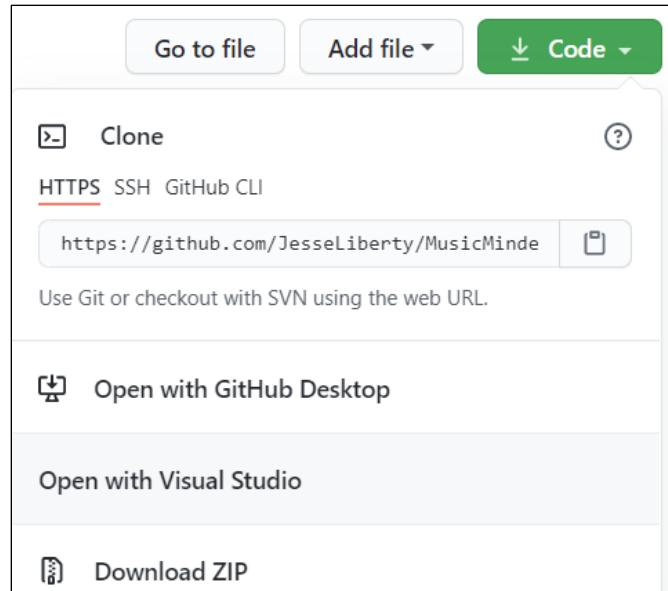
```
Last commands done (4 commands done):
  squash cae7e44 Add Artist
  squash 502ec3f Add ReleaseDate
  (see more in file .git/rebase-merge/done)
Next commands to do (3 remaining commands):
  pick da483d5 Fix namespace
  pick 6cff23a Drag music into project
  (use "git rebase --edit-todo" to view and edit)
You are currently rebasing branch 'main' on '238230b'.
  (all conflicts fixed: run "git rebase --continue")

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    modified:   Music.cs
```

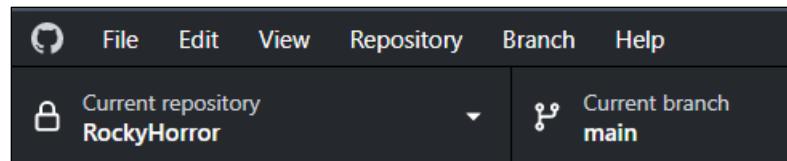
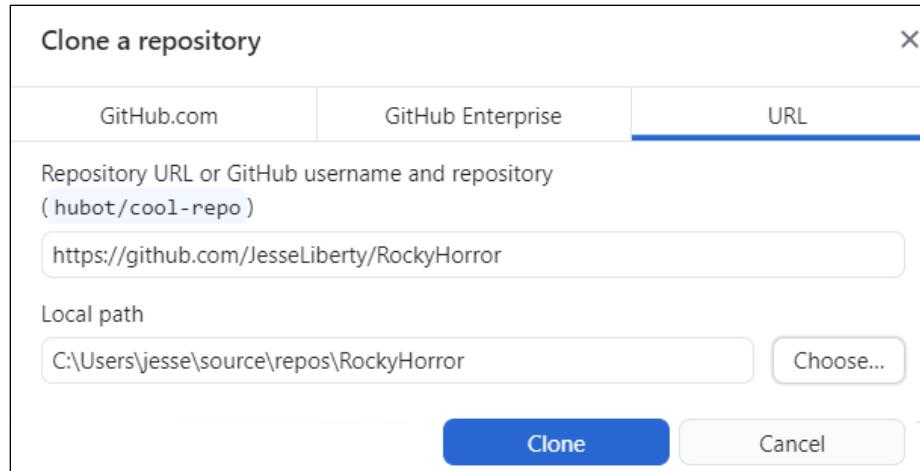
```
1 file changed, 3 insertions(+), 5 deletions(-)
Successfully rebased and updated refs/heads/main.
```

```
git lg
be3e502 - (HEAD -> main) Add Ripple (3 minutes ago) <Jesse Liberty>
aa2824c - Drag music into project (3 minutes ago) <Jesse Liberty>
2b20307 - Fix namespace (3 minutes ago) <Jesse Liberty>
817b28e - Add music class (3 minutes ago) <Jesse Liberty>
d27ecd0 - # This is a combination of 3 commits. # This is the 1st commit message: (13 minutes ago) <Jesse Liberty>
238230b - Initial Commit (3 days ago) <Jesse Liberty>
b6fc88f - (origin/main, origin/HEAD) Initial commit (3 days ago) <Jesse Liberty>
```

| ▲ Outgoing (6) Push | | | | | |
|---------------------|----------|---------------|----------------------|---------------------------------------|--|
| ● | be3e5021 | Jesse Liberty | 4/11/2021 7:49:05 AM | Add Ripple | |
| ● | aa2824cc | Jesse Liberty | 4/11/2021 7:44:51 AM | Drag music into project | |
| ● | 2b203071 | Jesse Liberty | 4/11/2021 7:41:04 AM | Fix namespace | |
| ● | 817b28e4 | Jesse Liberty | 4/11/2021 7:30:26 AM | Add music class | |
| ● | d27ecd0b | Jesse Liberty | 4/9/2021 12:28:04 PM | # This is a combination of 3 commits. | |
| ● | 238230ba | Jesse Liberty | 4/8/2021 2:52:15 PM | Initial Commit | |
| ▲ Local History | | | | | |
| ● | b6fc88fb | Jesse Liberty | 4/8/2021 2:18:06 PM | Initial commit | |



Launching GitHub Desktop...
If nothing happens, [download GitHub Desktop](#) and try again.
[Go back](#)



Changes 3 History New RockyHorror\Program.cs

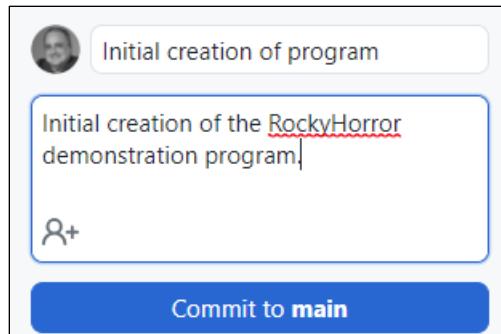
3 changed files

RockyHorror.sln

RockyHorror\Program.cs

RockyHorror\RockyHorror.csproj

```
@@ -0,0 +1,12 @@
+•using System;
+
+namespace RockyHorror
+{
+    class Program
+    {
+        static void Main(string[] args)
+        {
+            Console.WriteLine("Hello World!");
+        }
+    }
+}
```



A screenshot of the GitHub desktop application interface. At the top, there are three dropdown menus: 'Current repository' set to 'RockyHorror', 'Current branch' set to 'main', and 'Push origin' with a status of 'Last fetched 3 minutes ago'. Below these are two tabs: 'Changes' (selected) and 'History'. Under the 'Changes' tab, it says '0 changed files'. To the right, a message states 'No local changes' with a red arrow pointing to the text. Below this, a note says 'There are no uncommitted changes in this repository. Here are some friendly suggestions for what to do next.' A callout box contains the text 'Push commits to the origin remote', 'You have 1 local commit waiting to be pushed to GitHub.', and 'Always available in the toolbar when there are local commits waiting to be pushed or Ctrl+P'. A red arrow points to the 'Push origin' button at the bottom right of the callout.

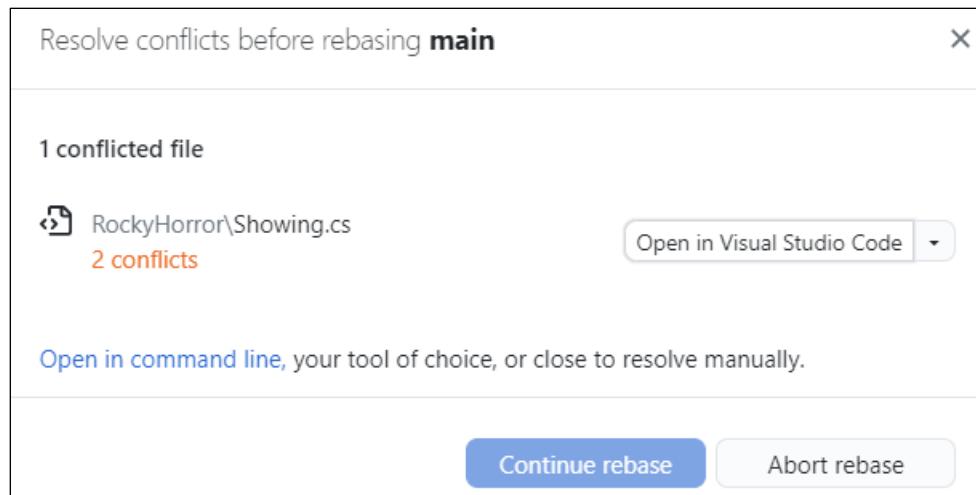
A screenshot of the GitHub desktop application interface. On the left, a sidebar shows 'Changes' (selected) and 'History'. The 'History' tab shows a single commit: 'Initial creation of program' by 'Jesse Liberty' 4 minutes ago. On the right, the main pane displays the commit details: 'Initial creation of the RockyHorror demonstration program.' Below this, a table lists three files: 'RockyHorror.sln', 'RockyHorror\Program.cs', and 'RockyHorror\RockyHorror.csproj', each with a green plus sign icon. The commit summary also includes a green 'New' button.

| Changes | History |
|---|---------|
| <p>No branches to compare</p> | |
| Add midnight | ↑ |
|  Jesse Liberty • 4m | |
| Add showtimes | ↑ |
|  Jesse Liberty • 5m | |
| Enter number of seats | ↑ |
|  Jesse Liberty • 9m | |
| Add the location | ↑ |
|  Jesse Liberty • 10m | |
| Instantiate a showing | ↑ |
|  Jesse Liberty • 11m | |
| Remove hello world | ↑ |
|  Jesse Liberty • 11m | |
| Modify to take list of show times | ↑ |
|  Jesse Liberty • 12m | |
| Time of the showing | ↑ |
|  Jesse Liberty • 13m | |
| How many seats are there at thi... | ↑ |
|  Jesse Liberty • 14m | |
| Add location property | ↑ |
|  Jesse Liberty • 15m | |
| Create Showing Class | ↑ |
|  Jesse Liberty • 16m | |
| Initial creation of program | ↑ |
|  Jesse Liberty • 26m | |
| Initial commit | |
|  Jesse Liberty • 41m | |

```
pick b1dbf7b Initial creation of program
pick 98b26f9 Create Showing Class
pick 04ceafe Add location property
pick 32495b0 How many seats are there at this location
pick 1207db1 Time of the showing
pick ad35c32 Modify to take list of show times
pick 69837b7 Remove hello world
pick b78229e Instantiate a showing
pick 1516f7b Add the location
pick 0768ee0 Enter number of seats
pick 3fb0eda Add showtimes
pick 70d0373 Add midnight
```

```
pick b1dbf7b Initial creation of program
pick 98b26f9 Create Showing Class
pick 04ceafe Add location property
pick 32495b0 How many seats are there at this location
d 1207db1 Time of the showing
pick ad35c32 Modify to take list of show times
pick 69837b7 Remove hello world
pick b78229e Instantiate a showing
s 1516f7b Add the location
s 0768ee0 Enter number of seats
s 3fb0eda Add showtimes
s 70d0373 Add midnight
```

```
error: could not apply ad35c32... Modify to take list of show times
Resolve all conflicts manually, mark them as resolved with
"git add/rm <conflicted_files>", then run "git rebase --continue".
You can instead skip this commit: run "git rebase --skip".
To abort and get back to the state before "git rebase", run "git rebase --abort".
Could not apply ad35c32... Modify to take list of show times
Auto-merging RockyHorror/Showing.cs
CONFLICT (content): Merge conflict in RockyHorror/Showing.cs
```



```
C: > Users > jesse > source > repos > RockyHorror > RockyHorror > Showing.cs
Accept Current Change | Accept Incoming Change | Accept Both Changes | Compare Changes
1 <<<<< HEAD (Current Change)
2 ◇namespace RockyHorror
3 =====
4 ◇using System;
5 using System.Collections.Generic;
6
7 namespace RockyHorror
8 >>>>> ad35c32 (Modify to take list of show times) (Incoming Change)
9 {
10     public class Showing
11     {
12         public string Location { get; set; }
13         public int NumberOfSeats { get; set; }
14     }
15     =====
16     public List<DateTime> ShowTimes { get; set; }
17 >>>>> ad35c32 (Modify to take list of show times) (Incoming Change)
18 }
19 }
```

```
1 file changed, 13 insertions(+)
Successfully rebased and updated refs/heads/main.
```

Chapter 7: Workflow, Notes, and Tags

```
$ git log --oneline
e16d191 (HEAD -> main, origin/main, origin/HEAD) Add program.cs first modifications
f55eb4e Instantiate a showing
bb4927c Remove hello world
bf6b900 Enter show times
32495b0 How many seats are there at this location
04ceafe Add location property
98b26f9 Create Showing Class
b1dbf7b Initial creation of program
d396657 Initial commit
```

Owner * Repository name *

JesseLiberty / RockyHorror2 ✓

Great repository names are short and memorable. Need inspiration? How about [jubilant-system](#)?

Description (optional)

Mirror of RockyHorror - Demo program for Pro Git for Programmers

 Public
Anyone on the internet can see this repository. You choose who can commit.

 Private
You choose who can see and commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

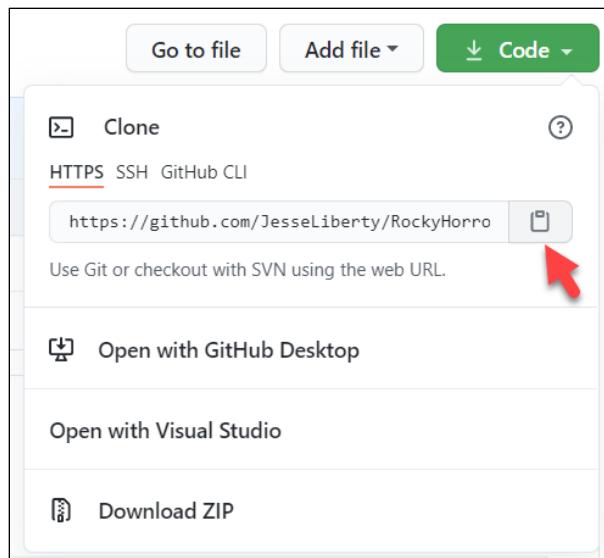
Add a README file
This is where you can write a long description for your project. [Learn more](#).

Add .gitignore
Choose which files not to track from a list of templates. [Learn more](#).

.gitignore template: [VisualStudio](#) ▾

Choose a license
A license tells others what they can and can't do with your code. [Learn more](#).

License: [MIT License](#) ▾



```
$ git push --mirror https://github.com/JesseLiberty/RockyHorror2.git
Enumerating objects: 39, done.
Counting objects: 100% (39/39), done.
Delta compression using up to 8 threads
Compressing objects: 100% (39/39), done.
Writing objects: 100% (39/39), 7.53 KiB | 1.88 MiB/s, done.
Total 39 (delta 18), reused 4 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (18/18), done.
To https://github.com/JesseLiberty/RockyHorror2.git
 + f982b74...e16d191 main -> main (forced update)
 * [new reference]    origin/HEAD -> origin/HEAD
 * [new reference]    origin/main -> origin/main
```

A screenshot of a GitHub repository page for 'RockyHorror2'. The top navigation bar shows the repository name and a 'Private' status. Red arrows point to the 'Issues' and 'Pull requests' buttons. Below the navigation is a summary: 'main' branch, '1 branch', '0 tags'. At the top right are 'Go to file', 'Add file ▾', and a green 'Code' button. The main area lists commits:

| Author | Commit Message | Date | Commits |
|-----------------|------------------------------------|------------------------|---------|
| JesseLiberty | Add program.cs first modifications | e16d191 33 minutes ago | 9 |
| RockyHorror | Add program.cs first modifications | 33 minutes ago | |
| .gitignore | Initial commit | 6 days ago | |
| LICENSE | Initial commit | 6 days ago | |
| README.md | Initial commit | 6 days ago | |
| RockyHorror.sln | Initial creation of program | 6 days ago | |

Below the commits is a 'README.md' section containing the text 'RockyHorror' with a red arrow pointing to it. At the bottom is a note: 'Challenge for ProGit for Programmers'.

```
jesse@Win10 MINGW64 /c/users/jesse/source/repos
$ git clone https://github.com/JesseLiberty/RockyHorror2.git
Cloning into 'RockyHorror2'...
remote: Enumerating objects: 39, done.
remote: Counting objects: 100% (39/39), done.
remote: Compressing objects: 100% (21/21), done.
remote: Total 39 (delta 18), reused 39 (delta 18), pack-reused 0
Receiving objects: 100% (39/39), 7.53 KiB | 1.51 MiB/s, done.
Resolving deltas: 100% (18/18), done.
```

```
jesse@Win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git log --oneline
e16d191 (HEAD -> main, origin/main, origin/HEAD) Add program.cs first modifications
f55eb4e Instantiate a showing
bb4927c Remove hello world
bf6b900 Enter show times
32495b0 How many seats are there at this location
04ceafe Add location property
98b26f9 Create Showing Class
b1dbf7b Initial creation of program
d396657 Initial commit
```

```
commit bb4927ca00fbcbd2c9ec2dfd01e049ace670182c
Author: Jesse Liberty <jesseliberty@gmail.com>
Date:   Mon Apr 12 08:37:49 2021 -0400

        Remove hello world

Notes:
    Remove from program.cs
```



```
jesse@Win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git show bb4927c
commit bb4927ca00fbcbd2c9ec2dfd01e049ace670182c
Author: Jesse Liberty <jesseliberty@gmail.com>
Date:   Mon Apr 12 08:37:49 2021 -0400

        Remove hello world

Notes:
    Remove from program.cs

diff --git a/RockyHorror/Program.cs b/RockyHorror/Program.cs
index 2f50edf..ec9d563 100644
--- a/RockyHorror/Program.cs
+++ b/RockyHorror/Program.cs
@@ -6,7 +6,6 @@ namespace RockyHorror
{
    static void Main(string[] args)
    {
-        Console.WriteLine("Hello World!");
    }
}
```

```
jesse@Win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git log --oneline
e16d191 (HEAD -> main, origin/main, origin/HEAD) Add program.cs first modifications
f55eb4e Instantiate a showing
bb4927c Remove hello world
bf6b900 Enter show times
32495b0 How many seats are there at this location
04ceafe Add location property
98b26f9 Create Showing Class
b1dbf7b Initial creation of program
d396657 Initial commit

jesse@Win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git tag LastShowCommit bf6b900

jesse@Win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git log --oneline
e16d191 (HEAD -> main, origin/main, origin/HEAD) Add program.cs first modifications
f55eb4e Instantiate a showing
bb4927c Remove hello world 
bf6b900 (tag: LastShowCommit) Enter show times
32495b0 How many seats are there at this location
04ceafe Add location property
98b26f9 Create Showing Class
b1dbf7b Initial creation of program
d396657 Initial commit

jesse@Win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ |
```

```
jesse@Win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git tag -a TestOfShowObject f55eb4e -m "Mark switch to testing the show object"
```

```
jesse@Win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git log --oneline
e16d191 (HEAD -> main, origin/main, origin/HEAD) Add program.cs first modifications
f55eb4e (tag: TestOfShowObject) Instantiate a showing
bb4927c Remove hello world 
bf6b900 (tag: LastShowCommit) Enter show times
32495b0 How many seats are there at this location
04ceafe Add location property
98b26f9 Create Showing Class
b1dbf7b Initial creation of program
d396657 Initial commit
```

```
$ git show TestOfShowObject
tag TestOfShowObject ←
Tagger: Jesse Liberty <jesseliberty@gmail.com> ←
Date: Sun Apr 18 17:26:01 2021 -0400

Mark switch to testing the show object ←

commit f55eb4ea8fd025415968b5892c0150d6a6a35873 (tag: TestOfShowObject)
Author: Jesse Liberty <jesseliberty@gmail.com>
Date: Mon Apr 12 08:38:32 2021 -0400

    Instantiate a showing

diff --git a/RockyHorror/Program.cs b/RockyHorror/Program.cs
index ec9d563..a3585d4 100644
--- a/RockyHorror/Program.cs
+++ b/RockyHorror/Program.cs
@@ -1,4 +1,5 @@
    using System;
+using System.Collections.Generic;

    namespace RockyHorror
    {
@@ -6,6 +7,18 @@ namespace RockyHorror
    {
        static void Main(string[] args)
        {
+            var showing = new Showing();
+            showing.Location = "Brattle";
+            showing.NumberOfSeats = 250;
+            showing.ShowTimes = new List<DateTime>
+            {
+                new DateTime(0,0,0,10,0,0),
+                new DateTime(0,0,0,13,0,0),
+                new DateTime(0,0,0,16,0,0),
+                new DateTime(0,0,0,19,0,0),
+                new DateTime(0,0,0,22,0,0),
+                new DateTime(0,0,0,0,1)
+            };
        }
    }
}
```

```
$ git log --oneline
e16d191 (HEAD -> main, origin/main, origin/HEAD) Add program.cs first modifications
f55eb4e (tag: TestOfShowObject) Instantiate a showing ←
bb4927c Remove hello world
bf6b900 (tag: LastShowCommit) Enter show times
32495b0 How many seats are there at this location
04ceafe Add location property
98b26f9 Create Showing Class
b1dbf7b Initial creation of program
d396657 Initial commit
```

```
jesse@win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git tag -f TestOfShowObject e16d191
Updated tag 'TestOfShowObject' (was 3d0dc4b) ←

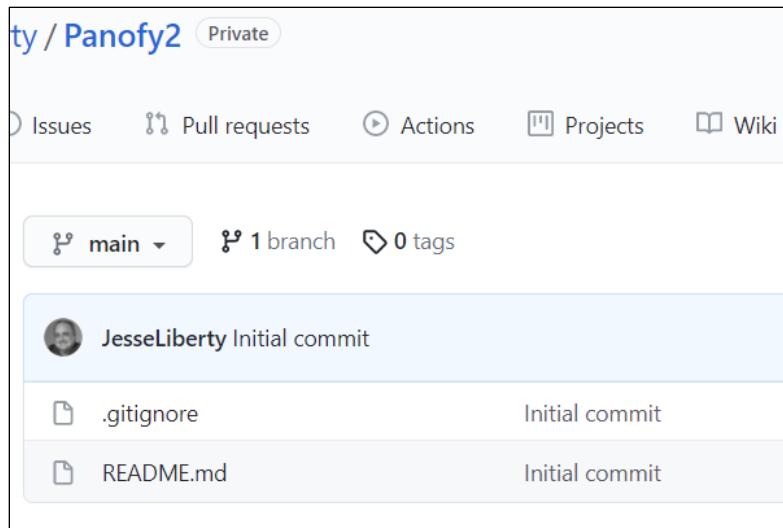
jesse@win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git log --oneline
e16d191 (HEAD -> main, tag: TestOfShowObject, origin/main, origin/HEAD) Add program
.cs first modifications ←
f55eb4e Instantiate a showing
bb4927c Remove hello world
bf6b900 (tag: LastShowCommit) Enter show times
32495b0 How many seats are there at this location
04ceafe Add location property
98b26f9 Create Showing Class
b1dbf7b Initial creation of program
d396657 Initial commit
```

```
jesse@win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git tag -d TestOfShowObject
Deleted tag 'TestOfShowObject' (was e16d191) ←

jesse@win10 MINGW64 /c/users/jesse/source/repos/RockyHorror2 (main)
$ git log --oneline
e16d191 (HEAD -> main, origin/main, origin/HEAD) Add program.cs first modifications
f55eb4e Instantiate a showing
bb4927c Remove hello world
bf6b900 (tag: LastShowCommit) Enter show times
32495b0 How many seats are there at this location
04ceafe Add location property
98b26f9 Create Showing class
b1dbf7b Initial creation of program
d396657 Initial commit
```

```
jesse@win10 MINGW64 /c/users/jesse/source/repos
$ cd panofy
bash: cd: panofy: No such file or directory ←

jesse@win10 MINGW64 /c/users/jesse/source/repos
$ git clone https://github.com/JesseLiberty/Panofy.git
Cloning into 'Panofy'...
remote: Enumerating objects: 50, done.
remote: Counting objects: 100% (50/50), done.
remote: Compressing objects: 100% (36/36), done.
remote: Total 50 (delta 24), reused 36 (delta 14), pack-reused 0
Receiving objects: 100% (50/50), 8.51 KiB | 670.00 KiB/s, done.
Resolving deltas: 100% (24/24), done.
```



```
$ git push --mirror https://github.com/JesseLiberty/Panofy2.git
Enumerating objects: 50, done.
Counting objects: 100% (50/50), done.
Delta compression using up to 8 threads
Compressing objects: 100% (26/26), done.
Writing objects: 100% (50/50), 8.51 KiB | 4.26 MiB/s, done.
Total 50 (delta 24), reused 50 (delta 24), pack-reused 0
remote: Resolving deltas: 100% (24/24), done.
To https://github.com/JesseLiberty/Panofy2.git
 + 96570a3...4b080ba main -> main (forced update)
 * [new reference]    origin/HEAD -> origin/HEAD
 * [new reference]    origin/main -> origin/main
```

ty / Panofy2 Private

Issues Pull requests Actions Projects Wiki Security

main ▾ 1 branch 0 tags

JesseLiberty change name of csproj to correct name

| | | | |
|--|------------|--|---------------------------------------|
| | Panofy | | change name of csproj to correct name |
| | .gitignore | | Initial commit |
| | LICENSE | | Initial commit |
| | README.md | | Initial commit |

```
jesse@win10 MINGW64 /c/users/jesse/source/repos/panofy (main)
$ git log --oneline
4b080ba (HEAD -> main, origin/main, origin/HEAD) change name of csproj to correct name
8d47c04 add converter skeleton
2ca4ad9 add subtract method
877348c Update csproj
c507abf Add Hello message
3c9929c Sync'ing with B
2661adc fix conflicts
edd7b01 Initial files from DirA
da77c91 First use of Panofy in Dir B
a253788 Initial commit
```

```
jesse@Win10 MINGW64 /c/users/jesse/source/repos/panofy (main)
$ git notes add c507abf ↗
hint: Waiting for your editor to close the file... ↗
[main 2021-04-19T13:26:15.306Z] update#setState idle
(node:7156) electron: The default of contextIsolation is deprecated and will be changing from false to true in a future release of Electron. See https://github.com/electron/electron/issues/23506 for more information
(node:7156) electron: The default of contextIsolation is deprecated and will be changing from false to true in a future release of Electron. See https://github.com/electron/electron/issues/23506 for more information
```

```
commit c507abff60ef529265136fb20f34da350625b6aa
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Feb 22 11:20:24 2021 -0500

    Add Hello message

Notes:
    Traditional Hello World
```

```
jesse@Win10 MINGW64 /c/users/jesse/source/repos/panofy (main)
$ git log --oneline
4b080ba (HEAD -> main, origin/main, origin/HEAD) change name of csproj to correct name
8d47c04 add converter skeleton
2ca4ad9 add subtract method
877348c Update csproj
c507abf Add Hello message
3c9929c Sync'ing with B
2661adc fix conflicts
edd7b01 Initial files from DirA
da77c91 First use of Panofy in Dir B
a253788 Initial commit
```

```
jesse@Win10 MINGW64 /c/users/jesse/source/repos/panofy (main)
$ git tag -a ReleaseCandidate 877348c -m "Added release candidate tag to mark progress" ↗
jesse@Win10 MINGW64 /c/users/jesse/source/repos/panofy (main)
$ git show ReleaseCandidate ↗
tag ReleaseCandidate ↗
Tagger: Jesse Liberty <jesseliberty@gmail.com> ↗
Date:   Mon Apr 19 09:34:39 2021 -0400 ↗
Added release candidate tag to mark progress ↗

commit 877348c77d4bee7c1a4ca9b2169aed9650e612a6 (tag: ReleaseCandidate)
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Feb 22 12:27:58 2021 -0500

    Update csproj

diff --git a/Panofy/Panofy/Panofy.csproj b/Panofy/Panofy/PanofyB.csproj
similarity index 100%
rename from Panofy/Panofy.csproj
rename to Panofy/PanofyB.csproj
diff --git a/Panofy/Panofy/Program.cs b/Panofy/Panofy/Program.cs
index aff8277..6c9797c 100644
--- a/Panofy/Panofy/Program.cs
+++ b/Panofy/PanofyB.csproj
@@ -7,6 +7,7 @@ namespace Panofy
        static void Main(string[] args)
        {
            Console.WriteLine("Hello main branch!");
+            Console.WriteLine("Another output line");
        }
    }
```

```
jesse@Win10 MINGW64 /c/users/jesse/source/repos/panofy (main)
$ git log --oneline
4b080ba (HEAD -> main, origin/main, origin/HEAD) change name of csproj to correct name
8d47c04 add converter skeleton
2ca4ad9 add subtract method
877348c (tag: ReleaseCandidate) Update csproj ←
c507abf Add Hello message
3c9929c Sync'ing with B
2661adc fix conflicts
edd7b01 Initial files from DirA
da77c91 First use of Panofy in Dir B
a253788 Initial commit
```

```
jesse@Win10 MINGW64 /c/users/jesse/source/repos/panofy (main)
$ git tag -f ReleaseCandidate 4b080ba
Updated tag 'ReleaseCandidate' (was a89d2dd) ←

jesse@Win10 MINGW64 /c/users/jesse/source/repos/panofy (main)
$ git log --oneline
4b080ba (HEAD -> main, tag: ReleaseCandidate, origin/main, origin/HEAD) change name of csproj to correct name
8d47c04 add converter skeleton ←
2ca4ad9 add subtract method
877348c Update csproj
c507abf Add Hello message
3c9929c Sync'ing with B
2661adc fix conflicts
edd7b01 Initial files from DirA
da77c91 First use of Panofy in Dir B
a253788 Initial commit
```

Chapter 8: Aliases

```
> git lg
* e16d191 - (HEAD → main, origin/main, origin/HEAD) Add program.cs first modifications (6 days ago) <Jesse Liberty>
* f55eb4e - Instantiate a showing (12 days ago) <Jesse Liberty>
* bb4927c - Remove hello world (12 days ago) <Jesse Liberty>
* bf6b900 - (tag: LastShowCommit) Enter show times (12 days ago) <Jesse Liberty>
* 32495b0 - How many seats are there at this location (12 days ago) <Jesse Liberty>
* 04ceafe - Add location property (12 days ago) <Jesse Liberty>
* 98b26f9 - Create Showing Class (12 days ago) <Jesse Liberty>
* b1dbf7b - Initial creation of program (12 days ago) <Jesse Liberty>
* d396657 - Initial commit (12 days ago) <Jesse Liberty>
```

```
> git nx
e16d191 (HEAD → main, origin/main, origin/HEAD) Add program.cs first modifications
RockyHorror/Program.cs
f55eb4e Instantiate a showing
RockyHorror/Program.cs
bb4927c Remove hello world
RockyHorror/Program.cs
bf6b900 (tag: LastShowCommit) Enter show times
RockyHorror/Showing.cs
32495b0 How many seats are there at this location
RockyHorror/Showing.cs
04ceafe Add location property
RockyHorror/Showing.cs
98b26f9 Create Showing Class
RockyHorror/Showing.cs
b1dbf7b Initial creation of program
```



Chapter 9: Using the Log

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner * Repository name *

 JesseLiberty / logdemo 

Great repository names are short and memorable. Need inspiration? How about [verbose-octo-waddle?](#)

Description (optional)

A demo program of the log in git

 Public
Anyone on the internet can see this repository. You choose who can commit.

 Private
You choose who can see and commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

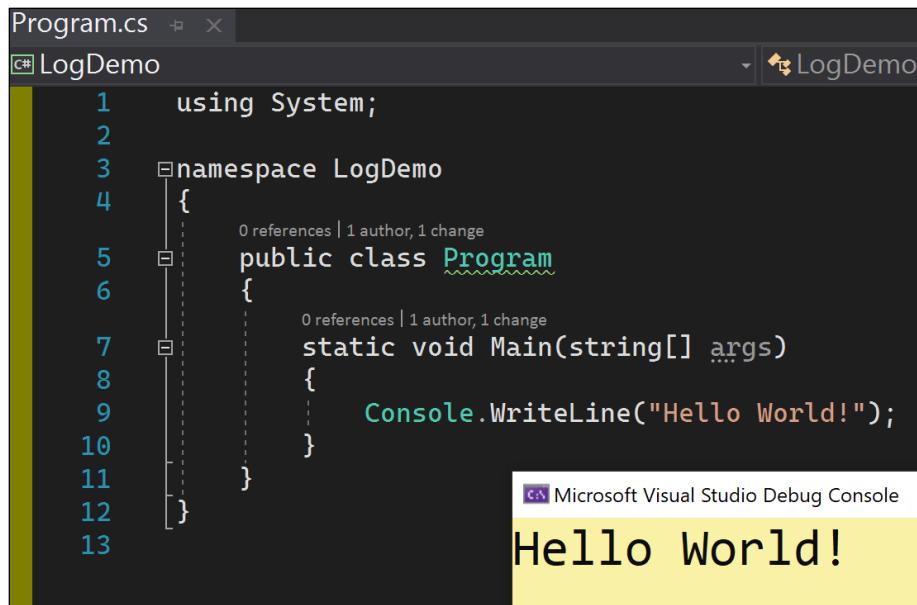
Add a README file
This is where you can write a long description for your project. [Learn more.](#)

Add .gitignore
Choose which files not to track from a list of templates. [Learn more.](#)
.gitignore template: [VisualStudio](#)

Choose a license
A license tells others what they can and can't do with your code. [Learn more.](#)
License: [MIT License](#)

This will set `main` as the default branch. Change the default name in your [settings](#).

```
C:\GitHub
SESA560987@DESKTOP-D21661F ➤ C:\GitHub
> git clone git@github.com:JesseLiberty/logdemo.git
Cloning into 'logdemo' ...
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (4/4), done.
remote: Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (5/5), done.
SESA560987@DESKTOP-D21661F ➤ C:\GitHub
>
```



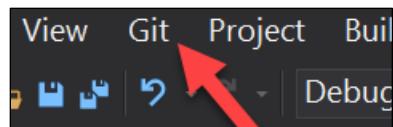
```
Program.cs  x
LogDemo
1  using System;
2
3  namespace LogDemo
4  {
5      public class Program
6      {
7          static void Main(string[] args)
8          {
9              Console.WriteLine("Hello World!");
10         }
11     }
12 }
13
```

Microsoft Visual Studio Debug Console
Hello World!

```
> git lg
bec9f25 | Exercise the program [Jesse Liberty] (12 seconds ago) (HEAD → main)
0b09cbe | Call the add function [Jesse Liberty] (12 seconds ago)
8fce349 | Instantiate the calculator [Jesse Liberty] (22 seconds ago)
71c5fb4 | Remove hello world [Jesse Liberty] (10 minutes ago)
f717ed7 | Add square root [Jesse Liberty] (10 minutes ago)
c755be8 | Add division [Jesse Liberty] (11 minutes ago)
c44fcc3 | Add integer division [Jesse Liberty] (12 minutes ago)
094e3d4 | Add the multiply method [Jesse Liberty] (12 minutes ago)
40c287a | Add the subtract method [Jesse Liberty] (13 minutes ago)
16aa1da | Add the add method [Jesse Liberty] (14 minutes ago)
9afca21 | Create calculator class [Jesse Liberty] (17 hours ago)
8798eac | Initial commit [Jesse Liberty] (17 hours ago)
e040fb0 | Initial commit [Jesse Liberty] (17 hours ago) (origin/main, origin/HEAD)
SESA560987@DESKTOP-D21661F > C:\GitHub\logdemo > ↵ main ↑12
```

```
> git st
On branch main
Your branch is ahead of 'origin/main' by 12 commits.
  (use "git push" to publish your local commits)

nothing to commit, working tree clean
SESA560987@DESKTOP-D21661F > C:\GitHub\logdemo > ↵ main ↑12
> ↵
```



| Outgoing (12) Push | | | | | |
|--------------------|----------|---------------|----------------------|----------------------------|--|
| ● | bec9f25b | Jesse Liberty | 3/1/2021 8:39:07 AM | Exercise the program | |
| ● | 0b09cbe0 | Jesse Liberty | 3/1/2021 8:34:02 AM | Call the add function | |
| ● | 8fce3491 | Jesse Liberty | 3/1/2021 8:32:03 AM | Instantiate the calculator | |
| ● | 71c5fb4d | Jesse Liberty | 3/1/2021 8:30:57 AM | Remove hello world | |
| ● | f717ed7b | Jesse Liberty | 3/1/2021 8:30:19 AM | Add square root | |
| ● | c755be83 | Jesse Liberty | 3/1/2021 8:29:31 AM | Add division | |
| ● | c44fcc3c | Jesse Liberty | 3/1/2021 8:28:53 AM | Add integer division | |
| ● | 094e3d40 | Jesse Liberty | 3/1/2021 8:28:18 AM | Add the multiply method | |
| ● | 40c287aa | Jesse Liberty | 3/1/2021 8:27:46 AM | Add the subtract method | |
| ● | 16aa1da1 | Jesse Liberty | 3/1/2021 8:27:11 AM | Add the add method | |
| ● | 9afca210 | Jesse Liberty | 2/28/2021 3:47:00 PM | Create calculator class | |
| ● | 8798eac2 | Jesse Liberty | 2/28/2021 3:43:43 PM | Initial commit | |
| Local History | | | | | |
| ● | e040fb00 | Jesse Liberty | 2/28/2021 3:41:34 PM | Initial commit | |

File Edit View Repository Branch Help

Current repository logdemo

Changes History

No branches to compare

Exercise the program
Call the add function
Instantiate the calculator
Remove hello world
Add square root
Add division
Add integer division
Add the multiply method
Add the subtract method
Add the add method

Call the add function

Jesse Liberty · 15m

LogDemo\LogDe...\\Program.cs

```

@@ -6,7 +6,8 @@ namespace LogDemo
    {
        static void Main(string[] args)
        {
-            var calculator = new Calculator.Calculator();
+            var calculator = new Calculator.Calculator();
+            Console.WriteLine($"5+3 = {calculator.Add(5, 3)}");
        }
    }
}

```

```

> git log --oneline
bec9f25 (HEAD → main) Exercise the program
0b09cbe Call the add function
8fce349 Instantiate the calculator
71c5fb4 Remove hello world
f717ed7 Add square root
c755be8 Add division
c44fcc3 Add integer division
094e3d4 Add the multiply method
40c287a Add the subtract method
16aa1da Add the add method
9afca21 Create calculator class
8798eac Initial commit
e040fb0 (origin/main, origin/HEAD) Initial commit

```

```
commit 0b09cbedb60fdc23aaee5043df0ac0e33f73718b
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Mar 1 08:34:02 2021 -0500
```

Call the add function

LogDemo/LogDemo/Program.cs

```
commit 8fce349163962f4022ac0b1ea7e8761006f95447
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Mar 1 08:32:03 2021 -0500
```

Instantiate the calculator

LogDemo/LogDemo/Program.cs

8fce349 | Instantiate the calculator [Jesse Liberty] (23 minutes ago)

LogDemo/LogDemo/Program.cs

71c5fb4 | Remove hello world [Jesse Liberty] (33 minutes ago)

LogDemo/LogDemo/Program.cs

f717ed7 | Add square root [Jesse Liberty] (33 minutes ago)

LogDemo/LogDemo/Calculator/Calculator.cs

```
commit bec9f25b77d4c02a57d33e074724f9e87f43e73c (HEAD -> main)
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Mar 1 08:39:07 2021 -0500
```

Exercise the program

```
diff --git a/LogDemo/LogDemo/Program.cs b/LogDemo/LogDemo/Program.cs
index 3de7fa7..2ed69be 100644
--- a/LogDemo/LogDemo/Program.cs
+++ b/LogDemo/LogDemo/Program.cs
@@ -8,6 +8,7 @@ namespace LogDemo
{
    var calculator = new Calculator.Calculator();
    Console.WriteLine($"5+3 = {calculator.Add(5, 3)}");
+    Console.WriteLine($"The square root of 3.14159 is {calculator.squareRoot(3.14159)}");
}
```

```

commit 468d37909bb0ac61bef8ec57fbfe627b47ea4cc8 (HEAD → main)
Author: Jesse Liberty <JesseLiberty@non.s0.com>
Date:   Mon Mar 1 09:15:49 2021 -0500

    Remove square root from test, add divide

diff --git a/LogDemo/LogDemo/Program.cs b/LogDemo/LogDemo/Program.cs
index 2ed69be..110b967 100644
--- a/LogDemo/LogDemo/Program.cs
+++ b/LogDemo/LogDemo/Program.cs
@@ -8,7 +8,7 @@ namespace LogDemo
{
    var calculator = new Calculator.Calculator();
    Console.WriteLine($"5+3 = {calculator.Add(5, 3)}");
-    Console.WriteLine($"The square root of 3.14159 is {calculator.squareRoot(3.14159)}");
+    Console.WriteLine($"5/3 = {calculator.Divide(5/3)}");
}
}

```

```

> git diff
diff --git a/LogDemo/LogDemo/Program.cs b/LogDemo/LogDemo/Program.cs
index 110b967..8e26107 100644
--- a/LogDemo/LogDemo/Program.cs
+++ b/LogDemo/LogDemo/Program.cs
@@ -8,7 +8,7 @@ namespace LogDemo
{
    var calculator = new Calculator.Calculator();
    Console.WriteLine($"5+3 = {calculator.Add(5, 3)}");
-    Console.WriteLine($"5/3 = {calculator.Divide(5/3)}");
+    Console.WriteLine($"The square root of 5 = {calculator.squareRoot(5.0)}");
}
}
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\logdemo ▶ ↵ main ↑13 +0 ~1 -0 !

```

| | | |
|---|-----------------------------|---|
| <pre> public double squareRoot (double x) { return Math.Sqrt(x); } </pre> | <pre> 34 35 36 37 38 </pre> | <pre> 1 reference 1 author, 1 change public double squareRoot (double x) { return Math.Sqrt(x); } 0 references 0 authors, 0 changes </pre> |
| | | <pre> 39 40 41 42 43 </pre> |

```
> git log LogDemo/LogDemo/Calculator/Calculator.cs
commit 623373c2dbfd0496fd3264984a3beb592b286c46 (HEAD → main)
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Mar 1 09:42:16 2021 -0500

    Swap methods for demo

commit f717ed7bc9509640b6a4f9afff174aef0aa1e0e8
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Mar 1 08:30:19 2021 -0500

    Add square root

commit c755be834c569bde58aed31c2743d5221b5519a8
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Mar 1 08:29:31 2021 -0500

    Add division

commit c44fcc3cb1ad37371a12d8cfdfa390f85caad42c
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Mar 1 08:28:53 2021 -0500

    Add integer division
```

```
> git lg LogDemo/LogDemo/Calculator/Calculator.cs
623373c | Swap methods for demo [Jesse Liberty] (7 minutes ago) (HEAD → main)
f717ed7 | Add square root [Jesse Liberty] (79 minutes ago)
c755be8 | Add division [Jesse Liberty] (80 minutes ago)
c44fcc3 | Add integer division [Jesse Liberty] (81 minutes ago)
094e3d4 | Add the multiply method [Jesse Liberty] (81 minutes ago)
40c287a | Add the subtract method [Jesse Liberty] (82 minutes ago)
16a1da | Add the add method [Jesse Liberty] (82 minutes ago)
9afca21 | Create calculator class [Jesse Liberty] (18 hours ago)
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\logdemo ➜ main ↑14
```

```

> git log -Scalculator
commit bec9f25b77d4c02a57d33e074724f9e87f43e73c
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Mar 1 08:39:07 2021 -0500

    Exercise the program

commit 0b09cbedb60fdc23aaee5043df0ac0e33f73718b
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Mar 1 08:34:02 2021 -0500

    Call the add function

commit 8fce349163962f4022ac0b1ea7e8761006f95447
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Mon Mar 1 08:32:03 2021 -0500

    Instantiate the calculator

```

```

> git lg -Scalculator
bec9f25 | Exercise the program [Jesse Liberty] (76 minutes ago)
0b09cbe | Call the add function [Jesse Liberty] (76 minutes ago)
8fce349 | Instantiate the calculator [Jesse Liberty] (76 minutes ago)

```

```

> git lg --committer="Jesse Liberty"
623373c | Swap methods for demo [Jesse Liberty] (21 minutes ago) (HEAD → main)
468d379 | Remove square root from test, add divide [Jesse Liberty] (48 minutes ago)
bec9f25 | Exercise the program [Jesse Liberty] (83 minutes ago)
0b09cbe | Call the add function [Jesse Liberty] (83 minutes ago)
8fce349 | Instantiate the calculator [Jesse Liberty] (83 minutes ago)
71c5fb4 | Remove hello world [Jesse Liberty] (2 hours ago)
f717ed7 | Add square root [Jesse Liberty] (2 hours ago)
c755be8 | Add division [Jesse Liberty] (2 hours ago)
c44fcc3 | Add integer division [Jesse Liberty] (2 hours ago)
094e3d4 | Add the multiply method [Jesse Liberty] (2 hours ago)
40c287a | Add the subtract method [Jesse Liberty] (2 hours ago)
16aa1da | Add the add method [Jesse Liberty] (2 hours ago)
9afca21 | Create calculator class [Jesse Liberty] (18 hours ago)
8798eac | Initial commit [Jesse Liberty] (18 hours ago)

```

```

> git lg --committer="Jesse" --since="80 minutes"
623373c | Swap methods for demo [Jesse Liberty] (18 minutes ago) (HEAD → main)
468d379 | Remove square root from test, add divide [Jesse Liberty] (44 minutes ago)
bec9f25 | Exercise the program [Jesse Liberty] (80 minutes ago)
0b09cbe | Call the add function [Jesse Liberty] (80 minutes ago)
8fce349 | Instantiate the calculator [Jesse Liberty] (80 minutes ago)

```

```
> git lg --author="Jesse" --since="2 hours"
623373c | Swap methods for demo [Jesse Liberty] (29 minutes ago) (HEAD → main)
468d379 | Remove square root from test, add divide [Jesse Liberty] (56 minutes ago)
bec9f25 | Exercise the program [Jesse Liberty] (2 hours ago)
0b09cbe | Call the add function [Jesse Liberty] (2 hours ago)
8fce349 | Instantiate the calculator [Jesse Liberty] (2 hours ago)
71c5fb4 | Remove hello world [Jesse Liberty] (2 hours ago)
f717ed7 | Add square root [Jesse Liberty] (2 hours ago)
c755be8 | Add division [Jesse Liberty] (2 hours ago)
c44fcc3 | Add integer division [Jesse Liberty] (2 hours ago)
094e3d4 | Add the multiply method [Jesse Liberty] (2 hours ago)
40c287a | Add the subtract method [Jesse Liberty] (2 hours ago)
16aa1da | Add the add method [Jesse Liberty] (2 hours ago)
```

Owner * Repository name *

JesseLiberty / LogChallenge ✓

Great repository names are short and memorable. Need inspiration? How about [curly-memory](#)?

Description (optional)
Answer to the log challenge in Pro Git for Programmers

Public
Anyone on the internet can see this repository. You choose who can commit.

Private
You choose who can see and commit to this repository.

Initialize this repository with:

Skip this step if you're importing an existing repository.

Add a README file
This is where you can write a long description for your project. [Learn more](#).

Add .gitignore
Choose which files not to track from a list of templates. [Learn more](#).
.gitignore template: [VisualStudio](#) ▾

Choose a license
A license tells others what they can and can't do with your code. [Learn more](#).
License: [MIT License](#) ▾

This will set [main](#) as the default branch. Change the default name in your [settings](#).

Grant your Marketplace apps access to this repository

You are subscribed to 1 Marketplace app

Slack + GitHub
Connect your code without leaving Slack

[Create repository](#)

```
Untracked files:
  (use "git add <file> ..." to include in what will be committed)
    LogChallenge/
nothing added to commit but untracked files present (use "git add" to track)
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\LogChallenge ▶ ↵ main ≡ +1 ~0 -0 !
> git add .
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\LogChallenge ▶ ↵ main ≡ +3 ~0 -0 ~
>
```

```
> git st
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file> ..." to unstage)
    new file:   LogChallenge\LogChallenge.sln
    new file:   LogChallenge\LogChallenge\LogChallenge.csproj
    new file:   LogChallenge\LogChallenge\Program.cs

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:  LogChallenge\LogChallenge\Program.cs
```

```
> git add .
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\LogChallenge ▶ ↵ main ≡ +3 ~0 -0 ~
> git st
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file> ..." to unstage)
    new file:   LogChallenge\LogChallenge.sln
    new file:   LogChallenge\LogChallenge\LogChallenge.csproj
    new file:   LogChallenge\LogChallenge\Program.cs
```

```
> git cam "First commit"
[main 29cfe55] First commit
 3 files changed, 46 insertions(+)
 create mode 100644 LogChallenge\LogChallenge.sln
 create mode 100644 LogChallenge\LogChallenge\LogChallenge.csproj
 create mode 100644 LogChallenge\LogChallenge\Program.cs
SESA560987@DESKTOP-D21661F ▶ C:\GitHub\LogChallenge ▶ ↵ main ↑1
```

```
> git lg --name-only
43dd70e | test the square root function [Jesse Liberty] (8 minutes ago) (HEAD → main)
LogChallenge/LogChallenge/Program.cs
0fa51fa | make Main public and remove writelines [Jesse Liberty] (11 minutes ago)

LogChallenge/LogChallenge/Program.cs
51dd6e9 | Add square root function [Jesse Liberty] (11 minutes ago)

LogChallenge/LogChallenge/Calculator/Calculator.cs
711c4e8 | add modulus operator [Jesse Liberty] (12 minutes ago)

LogChallenge/LogChallenge/Calculator/Calculator.cs
06d7319 | add division function [Jesse Liberty] (13 minutes ago)

LogChallenge/LogChallenge/Calculator/Calculator.cs
31f5873 | Add intDivision function [Jesse Liberty] (14 minutes ago)

LogChallenge/LogChallenge/Calculator/Calculator.cs
9639a70 | add the multiply function [Jesse Liberty] (15 minutes ago)

LogChallenge/LogChallenge/Calculator/Calculator.cs
d1eaff5 | capitalize subtract function [Jesse Liberty] (15 minutes ago)
```

```
modified: LogChallenge/LogChallenge/Calculator/Calculator.cs
modified: LogChallenge/LogChallenge/Program.cs
```

```
> git lg
d2dfd23 | Make program static, add round to calculator [Jesse Liberty] (36 seconds ago) (HEAD → main)
43dd70e | test the square root function [Jesse Liberty] (5 hours ago)
0fa51fa | make Main public and remove writelines [Jesse Liberty] (6 hours ago)
51dd6e9 | Add square root function [Jesse Liberty] (6 hours ago)
711c4e8 | add modulus operator [Jesse Liberty] (6 hours ago)
06d7319 | add division function [Jesse Liberty] (6 hours ago)
31f5873 | Add intDivision function [Jesse Liberty] (6 hours ago)
9639a70 | add the multiply function [Jesse Liberty] (6 hours ago)
d1eaff5 | capitalize subtract function [Jesse Liberty] (6 hours ago)
d92657d | Add subtract function [Jesse Liberty] (6 hours ago)
b5e945f | Capitalize add function [Jesse Liberty] (6 hours ago)
f535d26 | Add the add function [Jesse Liberty] (6 hours ago)
a8cf101 | make calculator class public [Jesse Liberty] (6 hours ago)
acd2ce4 | Create calculator class [Jesse Liberty] (6 hours ago)
29cfe55 | First commit [Jesse Liberty] (6 hours ago)
d0518a1 | Initial commit [Jesse Liberty] (6 hours ago) (origin/main, origin/HEAD)
SESA560987@DESKTOP-D21661F C:\GitHub\LogChallenge ↵ main t15
```

```
> git log LogChallenge\LogChallenge\Program.cs
commit d2dfd23facccfe59434094f0462d38c995e98b7c (HEAD → main)
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Sun Mar 7 15:04:03 2021 -0500

    Make program static, add round to calculator

commit 43dd70e5b6405323f5b8ca355d75fb761f14d6db
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Sun Mar 7 09:36:53 2021 -0500

    test the square root function

commit 0fa51fa375712998569a190bafc0ade940e7f190
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Sun Mar 7 09:34:14 2021 -0500

    make Main public and remove writelines

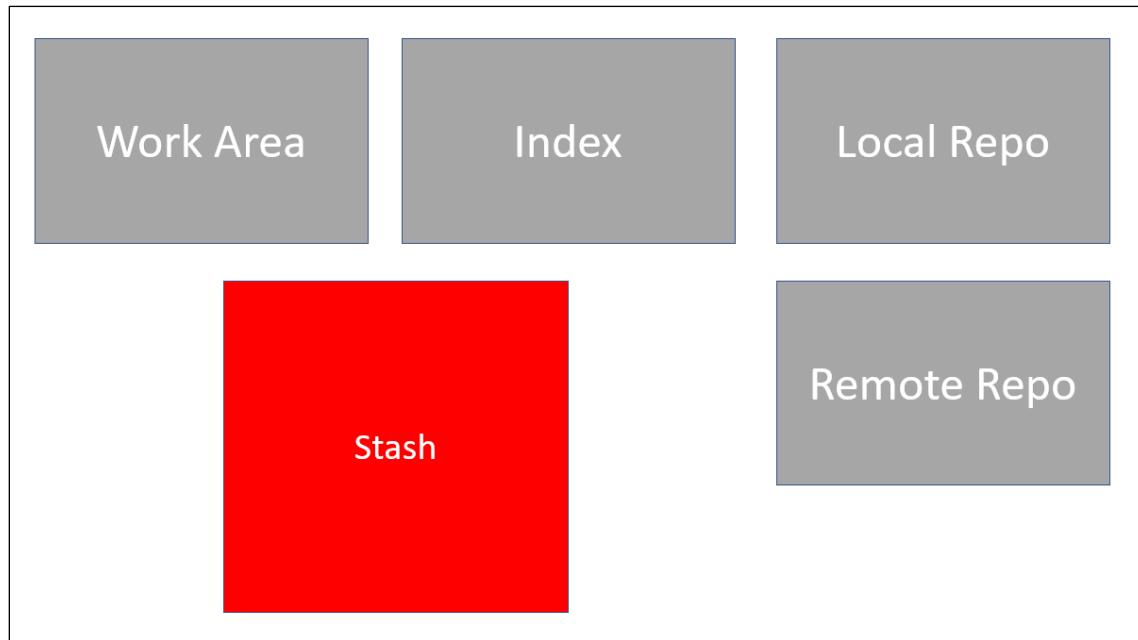
commit 29cfe5594a3dfb3d2d71a90f0731d4fa1f286a62
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Sun Mar 7 09:22:46 2021 -0500

First commit
```

```
> git log --since="90 minutes"
commit d2dfd23facccfe59434094f0462d38c995e98b7c (HEAD → main)
Author: Jesse Liberty <JesseLiberty@non.se.com>
Date:   Sun Mar 7 15:04:03 2021 -0500

    Make program static, add round to calculator
```

Chapter 10: Important Git Commands and Metadata



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Owner * JesseLiberty / Repository name *

Great repository names are short and memorable. Need inspiration? How about [potential-pancake](#)?

Description (optional)
Demo of stash for Pro Git for Programmers

Public
Anyone on the internet can see this repository. You choose who can commit.

Private
You choose who can see and commit to this repository.

Initialize this repository with:
Skip this step if you're importing an existing repository.

Add a README file
This is where you can write a long description for your project. [Learn more.](#)

Add .gitignore
Choose which files not to track from a list of templates. [Learn more.](#)

Choose a license
A license tells others what they can and can't do with your code. [Learn more.](#)

```
> jesse@Win10 ~ > source > repos > rockyhorror2 > main =>
> git push --mirror https://github.com/JesseLiberty/RockyHorrorStash.git
Enumerating objects: 42, done.
Counting objects: 100% (42/42), done.
Delta compression using up to 8 threads
Compressing objects: 100% (23/23), done.
Writing objects: 100% (42/42), 7.78 KiB | 419.00 KiB/s, done.
Total 42 (delta 18), reused 39 (delta 18), pack-reused 0
remote: Resolving deltas: 100% (18/18), done.
To https://github.com/JesseLiberty/RockyHorrorStash.git
 * [new branch]      main → main
 * [new reference]   refs/notes/commits → refs/notes/commits
 * [new reference]   origin/HEAD → origin/HEAD
 * [new reference]   origin/main → origin/main
 * [new tag]         LastShowCommit → LastShowCommit
```

```
> jesse@Win10 ~ > source > repos
> git clone https://github.com/JesseLiberty/RockyHorrorStash.git
Cloning into 'RockyHorrorStash' ...
remote: Enumerating objects: 39, done.
remote: Counting objects: 100% (39/39), done.
remote: Compressing objects: 100% (21/21), done.
remote: Total 39 (delta 18), reused 39 (delta 18), pack-reused 0
Receiving objects: 100% (39/39), 7.53 KiB | 2.51 MiB/s, done.
Resolving deltas: 100% (18/18), done.
```

```
git lg
e16d191 - (HEAD → main, origin/main, origin/HEAD) Add program.cs first modifications (7 days ago) <Jesse Liberty>
f55eb4e - Instantiate a showing (13 days ago) <Jesse Liberty>
bb4927c - Remove hello world (13 days ago) <Jesse Liberty>
bf6b900 - (tag: LastShowCommit) Enter show times (13 days ago) <Jesse Liberty>
32495b0 - How many seats are there at this location (13 days ago) <Jesse Liberty>
04ceafe - Add location property (13 days ago) <Jesse Liberty>
98b26f9 - Create Showing Class (13 days ago) <Jesse Liberty>
b1dbf7b - Initial creation of program (13 days ago) <Jesse Liberty>
d396657 - Initial commit (13 days ago) <Jesse Liberty>
```

```
1 reference | Jesse Liberty, 13 days ago | 1 author, 4 changes
public class Showing
{
    2 references | Jesse Liberty, 13 days ago | 1 author, 1 change
    public string Location { get; set; }
    2 references | Jesse Liberty, 13 days ago | 1 author, 1 change
    public int NumberOfSeats { get; set; }
    2 references | Jesse Liberty, 13 days ago | 1 author, 1 change
    public List<DateTime> ShowTimes { get; set; }

    0 references | 0 changes | 0 authors, 0 changes
    public int PopcornSold { get; set; }
}
```

```
> git st
On branch main
Your branch is up to date with 'origin/main'.

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:   RockyHorror/Program.cs
    modified:   RockyHorror/Showing.cs

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

```
> git stash
Saved working directory and index state WIP on main: e16d191 Add program.cs first modifications
```

```
> git stash list
stash@{0}: WIP on main: e16d191 Add program.cs first modifications
```

```
showing.Location = "Limestone";
showing.NumberOfSeats = 250;
```

```
> git st
On branch main
Your branch is up to date with 'origin/main'.

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:   RockyHorror/Program.cs

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

```
> git stash
Saved working directory and index state WIP on main: e16d191 Add program.cs first modifications
```

```
> git stash list
stash@{0}: WIP on main: e16d191 Add program.cs first modifications
stash@{1}: WIP on main: e16d191 Add program.cs first modifications
```

```
> git stash show
RockyHorror/Program.cs | 2 +-
 1 file changed, 1 insertion(+), 1 deletion(-)
```

```
> git st
On branch main
Your branch is up to date with 'origin/main'.

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

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

```
> git clean  
fatal: clean.requireForce defaults to true and neither -i, -n, nor -f given; refusing to clean
```

```
> git clean -f  
Removing Untracked.cs
```

```
> git show -s HEAD --format='%an <%ae> %h %d'  
Jesse Liberty <jesseliberty@gmail.com> e16d191 (HEAD → main, origin/main, origin/HEAD)
```

```
> git lg  
* e16d191 - (HEAD → main, origin/main, origin/HEAD) Add program.cs first modifications (7 days ago) <Jesse Liberty>  
* f55eb4e - Instantiate a showing (13 days ago) <Jesse Liberty>  
* bb4927c - Remove hello world (13 days ago) <Jesse Liberty>  
* bf6b900 - (tag: LastShowCommit) Enter show times (13 days ago) <Jesse Liberty>  
* 32495b0 - How many seats are there at this location (13 days ago) <Jesse Liberty>  
* 04ceafe - Add location property (13 days ago) <Jesse Liberty>  
* 98b26f9 - Create Showing Class (13 days ago) <Jesse Liberty>  
* b1dbf7b - Initial creation of program (13 days ago) <Jesse Liberty>  
* d396657 - Initial commit (13 days ago) <Jesse Liberty>
```

```
> git show -s bf6b900 --format='%an <%ae> %h %d'  
Jesse Liberty <jesseliberty@gmail.com> bf6b900 (tag: LastShowCommit)
```

```
> git show -s 32495b0..f55eb4e --format='%an <%ae> %h %d'  
Jesse Liberty <jesseliberty@gmail.com> f55eb4e  
Jesse Liberty <jesseliberty@gmail.com> bb4927c  
Jesse Liberty <jesseliberty@gmail.com> bf6b900 (tag: LastShowCommit)
```

```
> git lg  
* be3e502 - (HEAD → main, origin/main, origin/HEAD) Add Ripple (2 weeks ago) <Jesse Liberty>  
* aa2824c - Drag music into project (2 weeks ago) <Jesse Liberty>  
* 2b20307 - Fix namespace (2 weeks ago) <Jesse Liberty>  
* 817b28e - Add music class (2 weeks ago) <Jesse Liberty>  
* d27ecd0 - # This is a combination of 3 commits. # This is the 1st commit message: (2 weeks ago) <Jesse Liberty>  
* 238230b - Initial Commit (3 weeks ago) <Jesse Liberty>  
* b6fc88f - Initial commit (3 weeks ago) <Jesse Liberty>
```

```
> git st  
On branch main  
Your branch is up to date with 'origin/main'.  
  
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:   MusicHandler/Music.cs  
    modified:   MusicHandler/Program.cs
```

```
> git stash  
Saved working directory and index state WIP on main: be3e502 Add Ripple  
> jesse@Win10 ~ > source > repos > musicHandler2stash ↵main = ↵  
> git status  
On branch main  
Your branch is up to date with 'origin/main'.
```

```
> jesse@Win10 ~ > source > repos > musicHandler2stash ↵main = ↵  
> git stash list  
stash@{0}: WIP on main: be3e502 Add Ripple
```

```
> git stash apply
On branch main
Your branch is up to date with 'origin/main'.

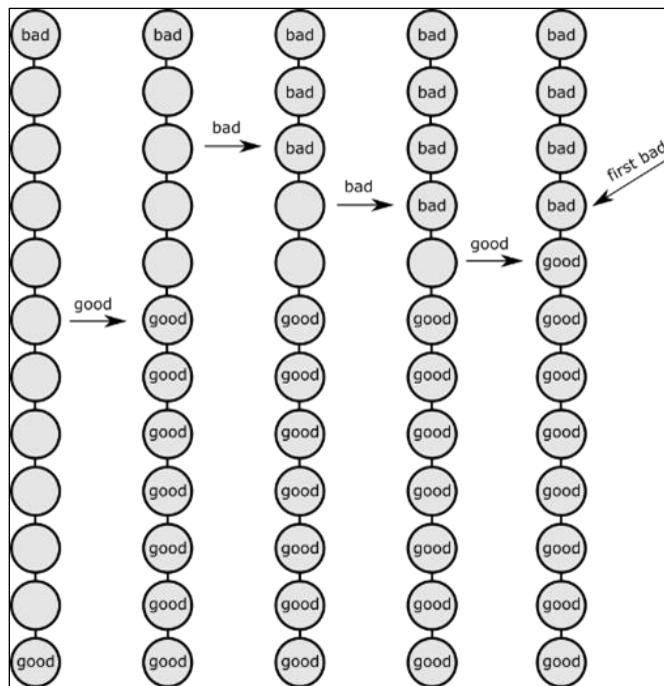
Changes not staged for commit:
  (use "git add <file> ..." to update what will be committed)
  (use "git restore <file> ..." to discard changes in working directory)
    modified:   MusicHandler/Music.cs
    modified:   MusicHandler/Program.cs

no changes added to commit (use "git add" and/or "git commit -a")
▶ jesse@Win10 ~ > source > repos > musichandler2stash ⟲ main ≡ □ ~2 ⟳
> git st
On branch main
Your branch is up to date with 'origin/main'.

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:   MusicHandler/Music.cs
    modified:   MusicHandler/Program.cs
```

```
> git stash list
stash@{0}: WIP on main: be3e502 Add Ripple
▶ jesse@Win10 ~ > source > repos > musichandler2stash ⟲ main ≡ □ ~2 ⟳
> git stash drop
Dropped refs/stash@{0} (7284ecdd5324323692f9e4b0cb9bd114fd7ece44)
▶ jesse@Win10 ~ > source > repos > musichandler2stash ⟲ main ≡ □ ~2 ⟳
> git stash list
▶ jesse@Win10 ~ > source > repos > musichandler2stash ⟲ main ≡ □ ~2 ⟳
```

Chapter 11: Finding A Broken Commit: Bisect and Blame



Owner * Repository name *

JesseLiberty / BisectTest ✓

Great repository names are short and memorable. Need inspiration? How about [improved-octo-invention?](#)

Description (optional)
A demonstration of using git bisect

Public
Anyone on the internet can see this repository. You choose who can commit.

Private
You choose who can see and commit to this repository.

Initialize this repository with:
Skip this step if you're importing an existing repository.

Add a README file
This is where you can write a long description for your project. [Learn more.](#)

Add .gitignore
Choose which files not to track from a list of templates. [Learn more.](#)
.gitignore template: [VisualStudio](#)

Choose a license
A license tells others what they can and can't do with your code. [Learn more.](#)
License: [MIT License](#)

This will set [main](#) as the default branch. Change the default name in your [settings](#).

Grant your Marketplace apps access to this repository
You are subscribed to 1 Marketplace app

Slack + GitHub
Connect your code without leaving Slack

[Create repository](#)

```
using System;

namespace BisectTest
{
    public static class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Hello World!");
        }
    }
}
```

```
> git st
On branch main
Your branch is up to date with 'origin/main'.

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

nothing added to commit but untracked files present (use "git add" to track)
SESA560987@DESKTOP-D21661F > C:\GitHub\BisectTest > main +1 ~0 -0 !
> git add .
SESA560987@DESKTOP-D21661F > C:\GitHub\BisectTest > main +3 ~0 -0 ~
> git commit
[main 174a008] Create the project
  3 files changed, 45 insertions(+)
   create mode 100644 BisectTest/BisectTest.sln
   create mode 100644 BisectTest/BisectTest/BisectTest.csproj
   create mode 100644 BisectTest/BisectTest/Program.cs
SESA560987@DESKTOP-D21661F > C:\GitHub\BisectTest > main +1
> git lg
174a008 | Create the project [Jesse Liberty] (26 seconds ago) (HEAD → main)
7259bb3 | Initial commit [Jesse Liberty] (8 minutes ago) (origin/main, origin/HEAD)
SESA560987@DESKTOP-D21661F > C:\GitHub\BisectTest > main +1
```

```
> git lg
e7e308c | Add calculator class [Jesse Liberty] (18 seconds ago) (HEAD → main)
174a008 | Create the project [Jesse Liberty] (5 minutes ago)
7259bb3 | Initial commit [Jesse Liberty] (12 minutes ago) (origin/main, origin/HEAD)
```

```
> git bisect start
SESA560987@DESKTOP-D21661F > C:\GitHub\BisectTest > main +12
> git bisect bad
```

```
> git lg
51dbcc4 | Test real division [Jesse Liberty] (7 minutes ago) (HEAD → main, refs/bisect/bad)
6a9f37b | Using the modulus operator [Jesse Liberty] (9 minutes ago)
a196d78 | Test 23/4 in integer division [Jesse Liberty] (13 minutes ago)
6f4cf1d | Add square root [Jesse Liberty] (19 minutes ago)
38fc64a | Add real division [Jesse Liberty] (19 minutes ago)
fb07de9 | Add modulus operator [Jesse Liberty] (22 minutes ago)
49931f9 | Add the divide function [Jesse Liberty] (24 minutes ago)
652a698 | Add the multiply function [Jesse Liberty] (25 minutes ago)
351b39d | Add the subtract function [Jesse Liberty] (26 minutes ago)
7ae0b2d | Add the add function [Jesse Liberty] (27 minutes ago)
e7e308c | Add calculator class [Jesse Liberty] (29 minutes ago)
174a008 | Create the project [Jesse Liberty] (34 minutes ago)
7259bb3 | Initial commit [Jesse Liberty] (41 minutes ago) (origin/main, origin/HEAD)
```

```
> git checkout 174a008  
Note: switching to '174a008'.
```

```
> git bisect good  
Bisecting: 5 revisions left to test after this (roughly 3 steps)  
[49431f9b5ec1754adcc4b1647753a371fc4641ec] Add the divide function  
SESA560987@DESKTOP-D21661F C:\GitHub\BisectTest > ↵ (49431f9 ...)|BISECTING #
```

```
> git bisect good  
Bisecting: 2 revisions left to test after this (roughly 2 steps)  
[6f4cf1d761bc5c521fb14b5710ae603fc6c0a] Add square root  
SESA560987@DESKTOP-D21661F C:\GitHub\BisectTest > ↵ (6f4cf1d ...)|BISECTING #
```

```
> git lg  
51dbcfa | Test real division [Jesse Liberty] (7 minutes ago) (HEAD → main, refs/bisect/bad)  
6a9f37b | Using the modulus operator [Jesse Liberty] (9 minutes ago)  
a196d78 | Test 23/4 in integer division [Jesse Liberty] (13 minutes ago)  
6f4cf1d | Add square root [Jesse Liberty] (19 minutes ago)  
38fc64a | Add real division [Jesse Liberty] (19 minutes ago)  
fb07de9 | Add modulus operator [Jesse Liberty] (22 minutes ago)  
49431f9 | Add the divide function [Jesse Liberty] (24 minutes ago)  
652a690 | Add the multiply function [Jesse Liberty] (25 minutes ago)  
351b39d | Add the subtract function [Jesse Liberty] (26 minutes ago)  
7ae0b2d | Add the add function [Jesse Liberty] (27 minutes ago)  
e7e308c | Add calculator class [Jesse Liberty] (29 minutes ago)  
174a008 | Create the project [Jesse Liberty] (34 minutes ago)  
7259bb3 | Initial commit [Jesse Liberty] (41 minutes ago) (origin/main, origin/HEAD)
```

```
> git bisect bad  
Bisecting: 0 revisions left to test after this (roughly 1 step)  
[38fc64a7ee715eeb5a01544f36a057fa536c0137] Add real division
```

```
> git bisect bad  
Bisecting: 0 revisions left to test after this (roughly 0 steps)  
[fb07de9f5ebf963f6eae57c020efa6a1613655d1] Add modulus operator
```

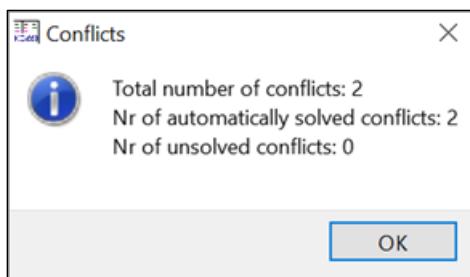
Chapter 12: Fixing Mistakes

```
> jesse@Win10 ~ > source > repos > errorsdemo > main =>
> git lg
* 4b080ba - (HEAD → main, tag: ReleaseCandidate, origin/main, origin/HEAD) change name of
  csproj to correct name (4 weeks ago) <Jesse Liberty>
* 8d47c04 - add converter skeleton (10 weeks ago) <Jesse Liberty>
* 2ca4ad9 - add subtract method (10 weeks ago) <Jesse Liberty>
* 877348c - Update csproj (10 weeks ago) <Jesse Liberty>
* c507abf - Add Hello message (10 weeks ago) <Jesse Liberty>
* 3c9929c - Sync'ing with B (10 weeks ago) <Jesse Liberty>
* 2661adc - fix conflicts (10 weeks ago) <Jesse Liberty>
| \
| * da77c91 - First use of Panofy in Dir B (10 weeks ago) <Jesse Liberty>
| * edd7b01 - Initial files from DirA (10 weeks ago) <Jesse Liberty>
| /
* a253788 - Initial commit (10 weeks ago) <Jesse Liberty>
```

```
> git lg
* 0b9f686 - (HEAD → main) change name of csproj (2 minutes ago) <Jesse Liberty>
* 8d47c04 - add converter skeleton (10 weeks ago) <Jesse Liberty>
* 2ca4ad9 - add subtract method (10 weeks ago) <Jesse Liberty>
* 877348c - Update csproj (10 weeks ago) <Jesse Liberty>
```

```
> git lg
* 0b9f686 - (HEAD → main) change name of csproj (2 minutes ago) <Jesse Liberty>
* 8d47c04 - add converter skeleton (10 weeks ago) <Jesse Liberty>
* 2ca4ad9 - add subtract method (10 weeks ago) <Jesse Liberty>
* 877348c - Update csproj (10 weeks ago) <Jesse Liberty>
* c507abf - Add Hello message (10 weeks ago) <Jesse Liberty>
* 3c9929c - Sync'ing with B (10 weeks ago) <Jesse Liberty>
* 2661adc - fix conflicts (10 weeks ago) <Jesse Liberty>
| \
| * da77c91 - First use of Panofy in Dir B (10 weeks ago) <Jesse Liberty>
| * edd7b01 - Initial files from DirA (10 weeks ago) <Jesse Liberty>
| /
* a253788 - Initial commit (10 weeks ago) <Jesse Liberty>
```

```
> git revert c507abf
Auto-merging Panofy/Panofy/Program.cs
CONFLICT (content): Merge conflict in Panofy/Panofy/Program.cs
error: could not revert c507abf ... Add Hello message
hint: after resolving the conflicts, mark the corrected paths
hint: with 'git add <paths>' or 'git rm <paths>'
hint: and commit the result with 'git commit'
```



```
namespace Panofy
{
    19 references | Jesse Liberty, 66 days ago | 1 author, 4 changes
    public class Program
    {
        0 references | Jesse Liberty, 66 days ago | 1 author, 4 changes
        static void Main(string[] args)
        {
            Console.WriteLine("Another output line");
        }
    }
}
```

```
▶ jesse@Win10 ~ > source > repos > errorsdemo ⌂main ↑2 ↓1
▶ git branch foo
▶ jesse@Win10 ~ > source > repos > errorsdemo ⌂main ↑2 ↓1
▶ git checkout foo
switched to branch 'foo'
▶ jesse@Win10 ~ > source > repos > errorsdemo ⌂foo ✘
▶ git branch -m foo bar ←
▶ jesse@Win10 ~ > source > repos > errorsdemo ⌂bar ✘
```