Introduction to Git

Install Git

You can install Git on Linux using apt by running the following command:

```
sudo apt update
sudo apt install git
```

Configure Git

```
git config --global user.name "Name"
git config --global user.email "user@example.com"
```

Initialize a new repository

Create a directory to store your project in. To do this, use the following command:

```
git init my-first-repo
```

Git Operations

Let's now create a text file named README.md We will be using the nano editor for this.

```
nano README.md
```

Type any text within the file, or you can use the following text:

```
This is my first repository.
```

Now let's add the file to the staging area using the following command:

```
git add README.md
```

Let's now commit the changes. A Git commit is equivalent to the term "Save". Commit the changes using the following command:

```
git commit
```

Enter the commit message of your choice or you can use the following text:

```
This is my first commit!
```

Let's now re-edit the file again to understand the process better. Open the file README using nano editor.

```
nano README.md
```

Now add another line of description for your repository below the earlier entered line. Add the description of your choice or you can use the following text:

```
A repository is a location where all the files of a particular project are stored.
```

Git tracks the changes and displays that the file has been modified. You can view the changes made to the file using the following command:

```
git diff README.md
```

You can see the differences between the older file and the new file. New additions are denoted by green-colored text and a + sign at the start of the line. Any replacements/removal are denoted by text in red-colored text and a - sign at the start of the line.
Now, we will add these changes to the staging area.
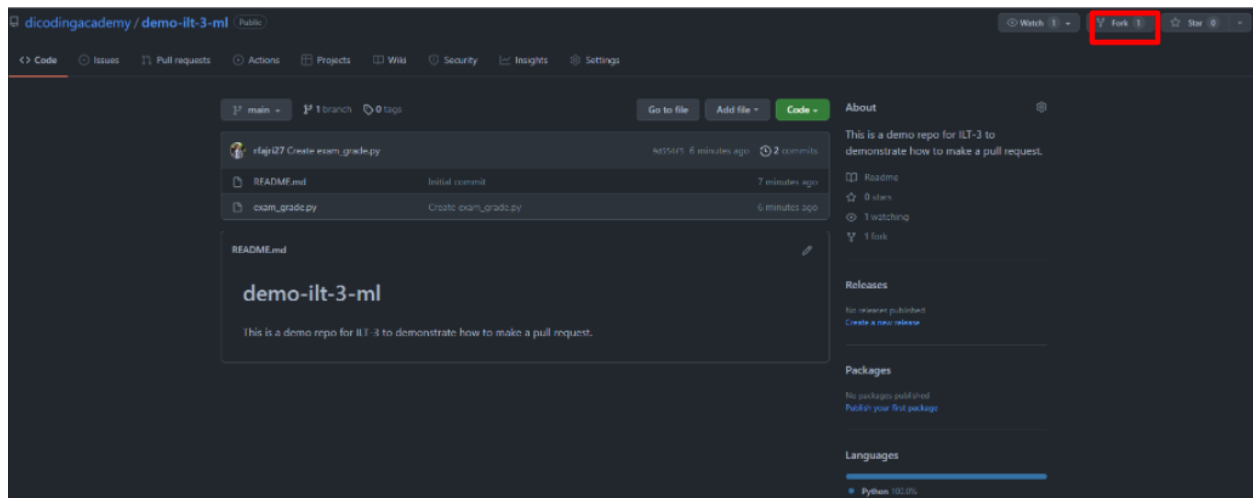
```
git add README.md
```

Let's commit the file now by entering the commit message with the command itself, unlike the previous commit.

```
git commit -m "This is my second commit."
```

How to Make a Pull Request

Forking

On GitHub, navigate to the [dicoding academy/demo-ilt-3-ml](#) repository.
In the top-right corner of the page, click Fork.

Then clone the repository using the following command:

```
git clone https://github.com/[git-username]/demo-ilt-3-ml.git
```

Fix the script

In order to add new changes into the repo directory, create a new branch named
"fix-exam-grade" in your forked repository using the following command:

```
cd it-cert-automation-practice
```

```
git branch fix-exam-grade
```

Go to the "fix-exam-grade" branch from the master branch.

```
git checkout fix-exam-grade
```

Here, you can check the "exam-grade" function's behavior by calling the function. To edit the exam-grade.py Python script, open it in a nano editor using the following command:

```
nano exam-grade.py
```

Now, change the fourth line with the following lines:

```
    elif score >= 60:
```

Now, run the exam-grade.py on the python interpreter.

Commit the changes

Once the issue is fixed and verified, create a new commit by adding the file to the staging area.

```
git add exam-grade.py
```

Let's now commit the changes. A git commit is like saving your work. Commit the changes using the following command:

```
git commit -m "Update & fixed the behavior of the exam-grade function in exam-grade.py."
```

Push changes

Now, let's push the changes.

```
git push origin fix-exam-grade
```

Then, from GitHub, create a pull request from your forked repository [git-username]/demo-ilt-3-ml that includes a description of your change.

Note: PR won't be merged on the master branch so that other instructors or students can also make a similar change to fix the issue.
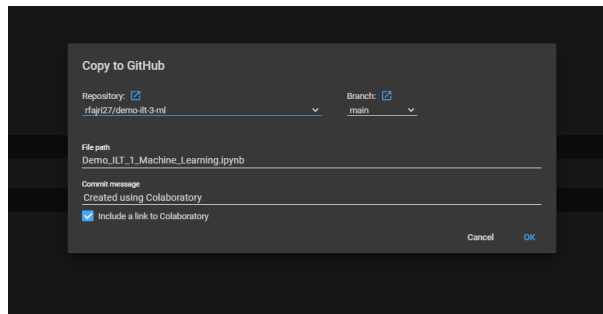
How to Work with Github in Google Colaboratory

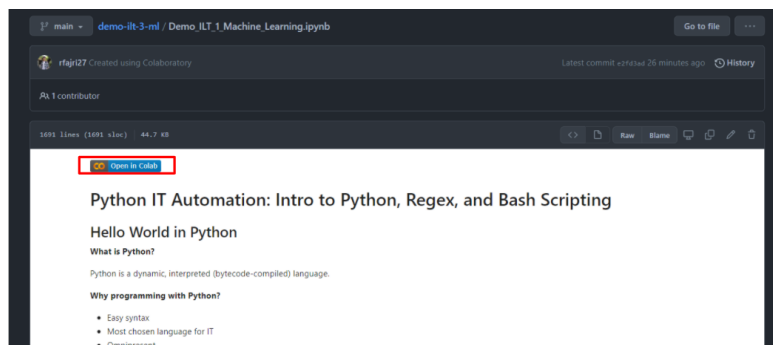## Add Colab notebook into GitHub Repository

You can save a colab notebook into GitHub by clicking the "save a copy in Github" in the file menu. Then colab will wait for authorization from GitHub.
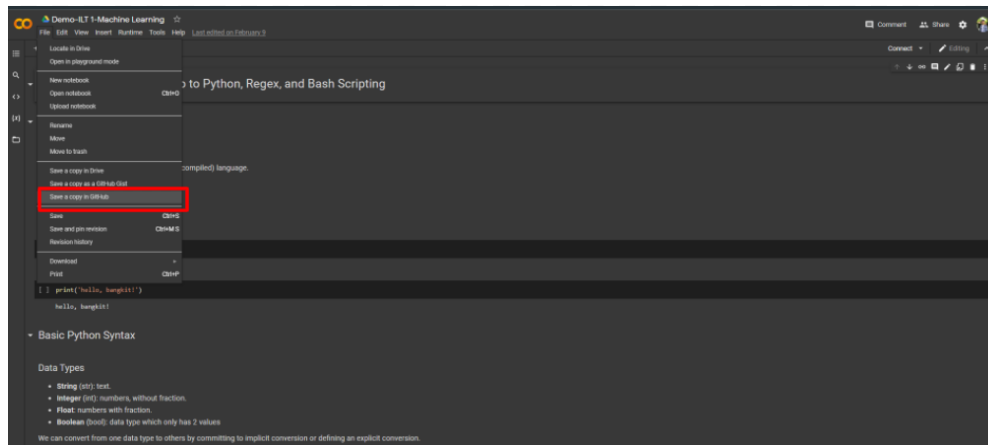
After that, you can choose the repository & branch to save the colab notebook.

After you save the colab notebook in Github, you can open it directly from GitHub

Note: You can run all the git commands in the colab notebook by adding the exclamation mark ("!") before git commands.