

Lab 1: Git + Python Fundamentals

CSI403 - Full Stack Development

Faculty of Information Technology

Sripatum University

Weight: 3.75%

Objectives

- ✓ Fork and clone Generic-RAG repository
- ✓ Practice Git workflow
- ✓ Review Python fundamentals

Repository: <https://github.com/amornpan/Generic-RAG>

Task 1: Fork Repository

- ① Go to <https://github.com/amornpan/Generic-RAG>
- ② Click “Fork” button (top right)
- ③ You now have your own copy!

Tip: Forking creates a personal copy of the repository that you can modify without affecting the original.

Task 2: Clone to Local

```
git clone https://github.com/YOUR_USERNAME/Generic-RAG.git  
cd Generic-RAG
```

Replace YOUR_USERNAME with your GitHub username.

Task 3: Setup Environment

```
# Create conda environment
conda create -n rag_env python=3.10 -y

# Activate environment
conda activate rag_env

# Install dependencies
pip install -r requirements.txt
```

Task 4: Create Feature Branch

```
git checkout -b feature/lab01-python
```

Git Flow: Always create a feature branch
for new work instead of committing to main.

Task 5: Write Python OOP Example

Create lab01_example.py:

```
class Document:  
    def __init__(self, title: str, content: str):  
        self.title = title  
        self.content = content  
  
    def get_summary(self) -> str:  
        return self.content[:100] + "..."  
  
# Test  
doc = Document("Test", "This is a test document...")  
print(doc.get_summary())
```

Task 6: Commit and Push

```
# Stage all changes
git add .

# Commit with message
git commit -m "Lab\u20141:\u2014Add\u2014Python\u2014OOP\u2014example"

# Push to remote
git push origin feature/lab01-python
```

Task 7: Create Pull Request

- ① Go to your repository on GitHub
- ② Click “**Compare & pull request**” button
- ③ Add description and create PR
- ④ Take screenshot of your PR

Deliverables

Item	Check
Forked repository	<input type="checkbox"/>
Feature branch created	<input type="checkbox"/>
Python file committed	<input type="checkbox"/>
Pull Request created	<input type="checkbox"/>
Screenshot of PR	<input type="checkbox"/>

Deadline: Sunday 23:59