

## DevOps CI/CD Exercise

### Introduction

In this exercise you will implement a GitHub Actions workflow to output a report on the number of lines of code in your mini project when it is committed.

This exercise will prepare you for implementing a CI/CD pipeline using GitHub actions for your group's final project.

For more information on GitHub Actions, refer to the [Documentation & Getting Started Guide](#)

### Exercise

#### 1. Create a Workflow

1. In your Mini Project repository, create a new GitHub actions workflow using the provided `example-action.yml`
2. The workflow yaml should be located inside the `.github/workflows` directory so that it is automatically located and loaded by github

#### 2. Trigger the Workflow

1. Commit your changes
2. In GitHub, navigate to the Actions for your repository and validate that the workflow has been created
3. Commit a minor change (e.g. add a new file or make an addition to your project README.md) and validate that the action is triggered by the commit
4. Validate the workflow lists the files in your project as expected

#### 3. Extend the workflow's functionality

1. Restrict the workflow to trigger only when a push is made to `main` branch, not any other
2. Extend the workflow with new step(s) to perform a count of lines of code in the project

Requirements:

- Line counting will be achieved by the `pygount` package
  - You will need a workflow step to install the package before it can be used
- Line count should produce a tabular output similar to the following:

| Language  | Files | %     | Code  | %     | Comment | %      |
|-----------|-------|-------|-------|-------|---------|--------|
| -----     | ----- | ----- | ----- | ----- | -----   | -----  |
| Python    | 2     | 40.00 | 62    | 84.93 | 7       | 100.00 |
| Text only | 1     | 20.00 | 6     | 8.22  | 0       | 0.00   |

|              |       |       |       |       |       |       |
|--------------|-------|-------|-------|-------|-------|-------|
| Transact-SQL | 1     | 20.00 | 4     | 5.48  | 0     | 0.00  |
| Markdown     | 1     | 20.00 | 1     | 1.37  | 0     | 0.00  |
| -----        | ----- | ----- | ----- | ----- | ----- | ----- |
| Sum total    | 5     |       | 73    |       | 7     |       |