

# CSC 330 Midterm Assignment:

Select **one** assignment from the options below:

## Option 1: Simple Calculator

### Objective:

Create a Flask application that performs basic arithmetic operations using URL parameters.

### Requirements:

- Use Flask routes to perform **addition, subtraction, multiplication, and division**.
- Each operation should have a separate route:
  - `/add/<int:a>/<int:b>` → Returns  $a + b$ .
  - `/subtract/<int:a>/<int:b>` → Returns  $a - b$ .
  - `/multiply/<int:a>/<int:b>` → Returns  $a * b$ .
  - `/divide/<int:a>/<int:b>` → Returns  $a / b$ .
- Handle division by zero properly.
- Display results using **Flask templates**.
- **Git Workflow Requirements:**
  - Use at least one **feature branch**.

## Option 2: Favorite Books List

### Objective:

Create a simple Flask app that displays a list of favorite books.

### Requirements:

- Create a route `/books` displaying a predefined list using a Flask template.
- The book list should be stored in a Python list inside the Flask app.
- Each book should be displayed with a title and author.
- **Git Workflow Requirements:**
  - Use at least one **feature branch**.

## Option 3: Animal Facts

### Objective:

Create a Flask application that displays fun facts about different animals.

### Requirements:

- Use **dynamic routes** to display different animal facts:
  - `/fact/dog` → Returns a fact about dogs.
  - `/fact/cat` → Returns a fact about cats.
  - `/fact/elephant` → Returns a fact about elephants.
- Store the facts in a Python dictionary and retrieve the correct one based on the URL.
- Render the fact dynamically in a Flask template.
- **Git Workflow Requirements:**
  - Use at least one **feature branch**.

## Option 4: Movie Recommendations

### Objective:

Develop a Flask application that recommends movies based on genre.

### Requirements:

- Create a route `/movies/<genre>` that:
  - Displays **at least 3 movies** from the selected genre.
  - Uses a Python dictionary to store genre-based movie lists.
- Display movie recommendations using a Flask template.
- **Git Workflow Requirements:**
  - Use at least one **feature branch**.

## Final Notes:

- All assignments must be submitted as a public Git repository on Blackboard.
- You must use a Git feature branch, and the commit history should demonstrate a proper workflow.
- The code should be **well-organized and readable** for full credit, and all work should be **representative of your skill set**.