



**The German University in Cairo (GUC)**  
**Faculty of Media Engineering and Technology**  
**Computer Science and Engineering**  
**Computer System Architecture - CSEN 601**

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## **Computer System Architecture**

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# Chapter 1

## Project Objectives

### 1.1 First Objective

The primary objective of this milestone is to setup a coding environment and work with the C programming language. The task involves developing a C program that reads a `.txt` file and prints its contents line by line in the terminal.

## Chapter 2

# Introduction

This project focuses on implementing a basic file-reading functionality using the C programming language. The milestone requires to develop a program that reads and outputs the contents of a text file, thereby introducing C's syntax, input/output operations, and environment setup.

## Chapter 3

# Methodology

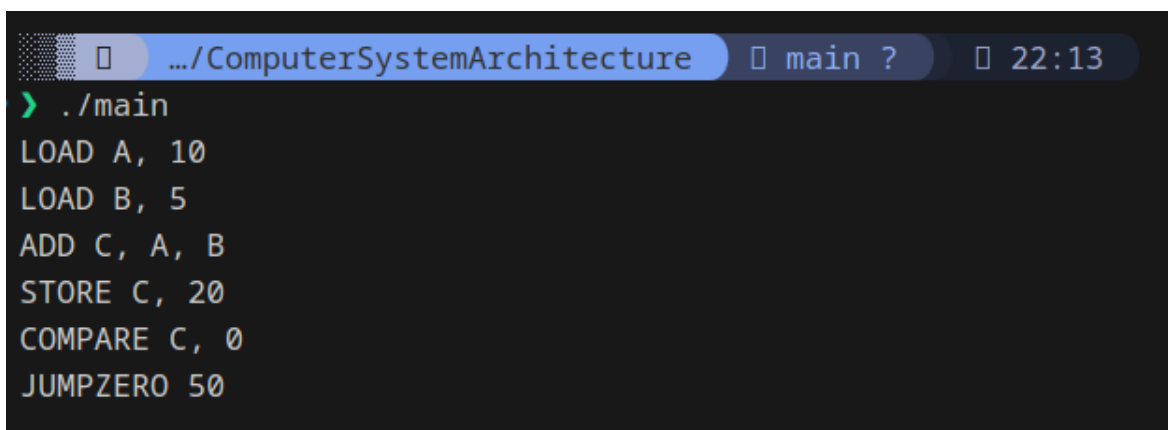
To achieve the project objectives, the following steps were undertaken:

1. **Environment Setup:** Configuring the development environment with a C compiler and necessary tools.
2. **File Handling Implementation:** Writing a C program that:
  - Opens a `.txt` file for reading.
  - Reads the file line by line.
  - Prints each line separately to the terminal.
3. **Testing and Debugging:** Running the program with different `.txt` files to verify correct functionality and address any errors.
4. **Documentation and Submission:** Preparing a report, a demonstration video, and packaging the source code as required.

## Chapter 4

# Results

The developed program successfully reads a `.txt` file and displays its contents in the terminal. Each character of the lines of the file is parsed and printed separately. The results confirm that the program meets the requirements.

A terminal window with a dark background. The title bar shows a file icon, the path `.../ComputerSystemArchitecture`, a tab labeled `main ?`, and the time `22:13`. The prompt is a green `>`. The input is `./main`. The output consists of several lines of assembly code: `LOAD A, 10`, `LOAD B, 5`, `ADD C, A, B`, `STORE C, 20`, `COMPARE C, 0`, and `JUMPZERO 50`.

```
.../ComputerSystemArchitecture  main ?  22:13
> ./main
LOAD A, 10
LOAD B, 5
ADD C, A, B
STORE C, 20
COMPARE C, 0
JUMPZERO 50
```

## Chapter 5

# Conclusion

This milestone provided valuable hands-on experience in C programming, particularly in file handling and text processing. By implementing this project, we improve our understanding of fundamental programming concepts, writing, testing, and debugging C programs. The successful execution of the program demonstrates proficiency in handling file input/output operations, which will be beneficial for more complex system programming tasks in the future.