

Assignment-2 Computer Architecture

Deadline 27/04/2024 1150 pm, Total Marks: 40

Objective:

The objectives of this assignment are as follows:

- [1] To understand different Cache Mapping techniques.
- [2] To run and understand assembly language syntax and code by using online assembler.
- [3] To write simple programs and understand how they are processed by a machine language.
- [4] To analyze behavior of different Assembly commands/codes.

Specification:

Q1: What are the differences between direct mapping, associative mapping, and set associative mapping? [5+15 Marks] *[CLO assessed: 1.2]*

- 1.1- A cache consists of 128 lines. The main memory contains 8192 blocks of 256 words each. Design the address format if the cache is
- a- Direct Mapped
 - b- Associative Mapped
 - c- Set Associative with four-line per sets.

Q2: Tasks (10 Marks for following instructions, 10 Marks for solving the exercises *[CLO assessed: 2.3]*)

Your task is to go to the following link and use the instructions and the tool available on the website.

<http://skilldrick.github.io/easy6502/>

Please document your experiments with all possible screenshots and related text. Show how the following operations are done using the online tool. Complete all exercises given on the link.

- 1. Introduction
- 2. Our first program
- 3. Registers and flags
- 4. Instructions

Instructions:

Submission: You should submit all your work as a single PDF/Doc titled firstName_SecondNameASSIGN2.pdf using LMS.

Plagiarism: Your submission should be your own work. All submissions are subject to strict checks for plagiarism. If you copy, the most likely penalty would be to **reduce the marks of WHOLE ASSIGNMENT COMPONENT TO ZERO.**