

## [Introduction to Computer Architecture'21] Lab: Assignment 2

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**Description:** Implement and Simulate 2x4 decoder using Verilog with ZYBO Z7 board.

**Requirement(s):**

- 1- Create 2 projects:
  - a. **First:**
    - i. Create Module to implement 2x4 decoder (*DECODER*).
    - ii. Create Module to simulate 2x4 decoder (*DecoderTest*):
      1. WAVE window (*4 tests*)
      2. RTL Design
  - b. **Second:**
    - i. Create Module to implement 2x4 decoder (*DECODER*).
    - ii. Create Module to run 2x4 decoder on ZYBO Z7 board (*ZyboTest*).

**Deadline:** Next lab (week 3) and upload the below files on moodle:

1. DECODER.v (*3 marks*)
2. DecoderTest.v (*2.5 marks*)
3. ZyboTest.v (*1.5 marks*)
4. Screenshot of WAVE window (*1.5 mark*)
5. Screenshot of RTL Design (*1.5 mark*)

**Grade:** [0, 10] depend on your work.

**Verilog + ZYBO Z7 board Help:**

- Check this link for Verilog syntax:  
<https://www.nandland.com/verilog/tutorials/index.html>
- Check this link for ZYBO Z7 board info.:  
<https://digilent.com/reference/programmable-logic/zybo/start>

**If you need any help regarding anything about the course, ask:**

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