[Introduction to Computer Architecture'21] Lab: Assignment 4

Description: ***Implement*** and ***Simulate*** a counter that counts 2, 7, 4, 3, 5, 1 using D Flip-flops using Verilog.

Requirement(s):

1- (*Coding*) Create a ***project***:
   a. Create a Module to implement next state circuit (***Next_State***).
   b. Create a Module to implement a current state circuit (***Current_State***).
   c. Create a Module to implement a register (D Flip-flop) circuit (***Register***).
   d. Create a Module to implement a sequential circuit main function (***Main***).
      i. Simulate and test the WAVE window (***5 cycles***)
2- (*Problem*) Solve the attached file called: *CA21_SLCProblem.docx*

   ***After that Convert it into PDF for uploading*

Deadline: Friday 15/11/2021 @ 11:59 PM and ***upload*** the below files on Moodle:

1. Next_State.v **(*1 point*)**
2. Current_State.v **(*1 point*)**
3. Register.v **(*1 point*)**
4. Main.v **(*1 point*)**
5. Screenshot of the WAVE window [5 cycles] **(*1 point*)**
6. CA21_SLCProblem.pdf **(*5 points*)**

****If you have any problem on *Moodle* sent your assignment after the deadline via *email***

- **Email Subject:** Computer-Architecture-Lab-Assignment-4
- **Email Content:**
  » Your ID
  » Your Full Name
  » Zipped file contains the required files
  » Screenshot of your code in each Module
  » Screenshot of WAVE window

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

Nile University

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Rules:

1. Any submissions after the deadline are not acceptable.
2. Important Plagiarism Notice:
    a. Deliverables based on other students' solutions lead to rejection of BOTH deliverables.
    b. Examples of plagiarism (but not limited to) copying (partial) code from other students, open-source software (or Internet in general), tutors, etc.

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:

- Engr. Ahmad M. Abdel-Hafeez: akassem@nu.edu.eg
- Engr. Mohammad Rady: mrady@nu.edu.eg