

## EE2026 Digital Design Quiz 2 - Template

AY2020-21 S2 (16 April 2021)

Matriculation Number :

Number of pages in this file (including  
cover page and declaration form)  
i.e. 2 + no. of answer pages :

A	0	2	1	4	5	6	1	M
4								

### INSTRUCTIONS:

- 1) Insert your images on pages 2 and 3. Ensure that your images are CLEAR.
  - 2) Rename this file to your MATRICULATION NUMBER and convert into a PDF file. (eg. A1234567R.pdf).
  - 3) Open the PDF file to ensure that it has been generated without error and the contents are correct.
  - 4) Upload document into LumiNUS Files >> Quiz 2 >> Quiz 2 Submission Folder by the stipulated deadline. Late submissions will not be accepted.
  - 5) After you have uploaded your document into the submission folder, please download your file and double check your submission.
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## Exam Declaration Form

Please read sections A, B and C below. Sign and submit this declaration form together with your answers.

### A. Academic, Professional and Personal Integrity

1. The University is committed to nurturing an environment conducive for the exchange of ideas, advancement of knowledge and intellectual development. Academic honesty and integrity are essential conditions for the pursuit and acquisition of knowledge, and the University expects each student to maintain and uphold the highest standards of integrity and academic honesty at all times.
2. The University takes a strict view of cheating in any form, deceptive fabrication, plagiarism and violation of intellectual property and copyright laws. Any student who is found to have engaged in such misconduct will be subject to disciplinary action by the University.
3. It is important to note that all students share the responsibility of protecting the academic standards and reputation of the University. This responsibility can extend beyond each student's own conduct, and can include reporting incidents of suspected academic dishonesty through the appropriate channels. Students who have reasonable grounds to suspect academic dishonesty should raise their concerns directly to the relevant Head of Department, Dean of Faculty, Registrar, Vice Provost or Provost.

### B. I have read and understood the rules of the assessments stated below:

- a. Students should attempt the assessments on their own. There should be no discussion or communication, via face to face or communication devices, with any other person during the assessment.
- b. Students should not reproduce any assessment materials, e.g. by photography, videography, screenshots, copying down of questions, etc. Posting on public forums, e.g. social media and websites, is prohibited.

### C. I understand that by breaching any of the rules above, I would have committed offences under clause 3(1) of the NUS Statute 6, Discipline with Respect to Students, which is punishable with disciplinary action under clause 10 or clause 11 of the said statute.

- 3} Any student who is alleged to have committed or attempted to commit, or caused or attempted to cause any other person to commit any of the following offences, may be subject to disciplinary proceedings:
- (1) plagiarism, giving or receiving unauthorised assistance in academic work, or other forms of academic dishonesty.

I have read and will abide by the NUS Code of Student Conduct (in particular, (A) Academic, Professional and Personal Integrity), B and C when attempting this assessment.

Signature: \_\_\_\_\_

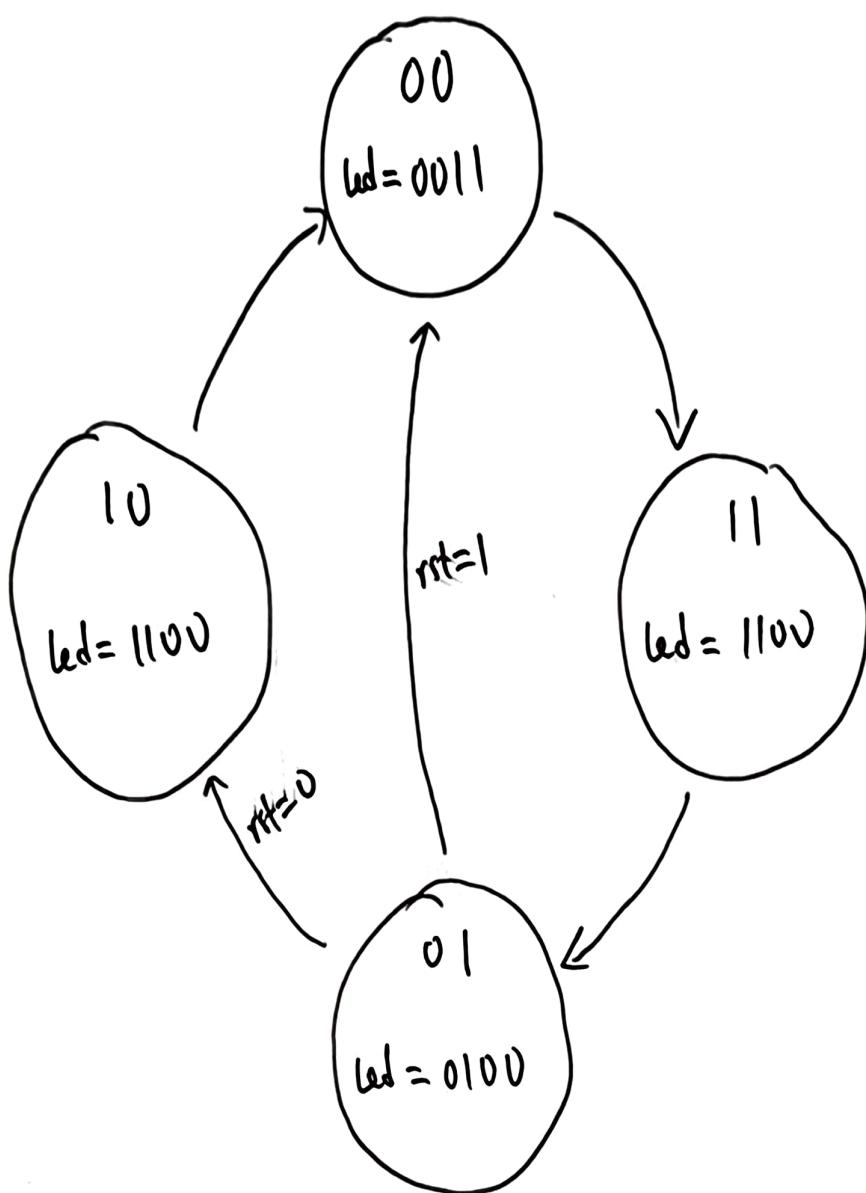
Matric. No.: \_\_\_\_\_

Date: \_\_\_\_\_

A0214561M

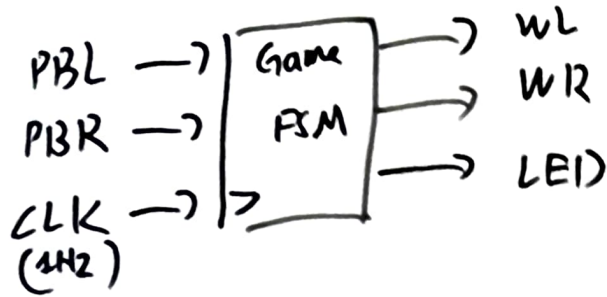
16/4/2021

QUESTION 12 (Insert image of solution below)

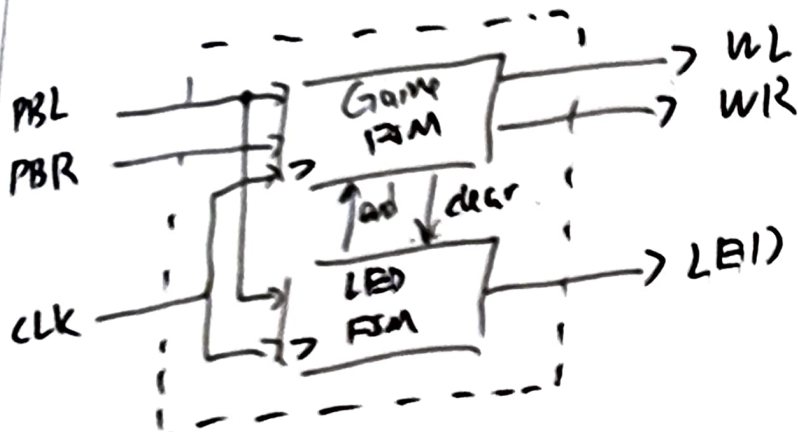


# SECTION 4 QUESTION 13 (Insert images of solutions below)

## (a) Overall Block Diagram

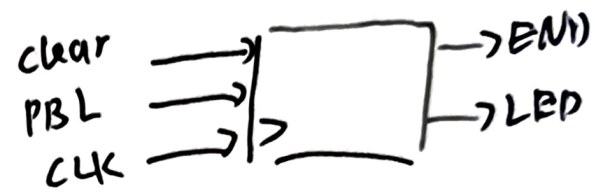


## (b) Modular FSM Block Diagram



### LED FSM

Mod 60 Counter



END = 1 when count = 59  
or PBL = 1

LED = 1

### GAME FSM

