BIM203 LOGIC DESIGN
HOMEWORK #3

A sequential circuit with two D flip-flops *A* and *B*, two inputs *X* and *Y*, and one output *Z* is specified by the following equations:

$$D_A = \bar{Y}B + \bar{X}\bar{A}$$
$$D_B = \text{XY + B}$$
$$Z = XYA$$

- Derive the state table.
- Derive the state diagram.
- Draw the logic diagram of the circuit on Logisim software and verify the state table values by providing all input combinations.
- Finally, archive the related files and submit via MERGEN by the deadline.

NOTES

- Make sure that you use edge-triggered flip-flops (FF), connect clock source, and reset FFs at initialization to put them into a known state.
- Each group (must be the same with previous submissions) should make single submission.
- Indicate IDs and names of group members within the archive file.
- You may refer to Help of Logisim software to learn how to use logic components.