

Department of Computer Science And Engineering

Bangladesh University of Engineering And Technology
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Online Assignment on Asynchronous Sequential Circuit Section A2 & B2

CSE 206 (Digital Logic Design Sessional)

Time: 60 mins

Date: 25th July, 2021

Design a fundamental mode circuit to function as an electrical lock. The lock has two switch inputs X_1 and X_2 . Design the circuit so that the lock open signal $Z=1$ is produced only after the following conditions have been satisfied.

- (i) Begin with $X_1 = X_2 = 0$;
- (ii) While $X_2 = 0$, X_1 is turned on and then off;
- (iii) Then while $X_1 = 0$, X_2 is turned on and then off;
- (iv) Then while X_2 remains off, X_1 is turned on to open the lock i.e. $Z=1$;
- (v) For any deviation in the sequence of above transitions the lock remain closed i.e. $Z=0$.

Report:

Create a PDF document containing the primitive flow table, reduced flow table, K-maps, etc. Submit the PDF file and the .circ file simulated in Logisim in a single zip file named <Roll_No>.zip.