

National Institute of Technology Calicut
Department of Computer Science and Engineering
Seventh Semester B. Tech.(CSE)
CS4052D Logic for Computer Science
Assignment 3 B

Submission deadline (on or before):

- 08.12.2020, 11:50 PM

Standard of Conduct

- Violation of academic integrity will be severely penalized. Each student is expected to adhere to high standards of ethical conduct, especially those related to cheating and plagiarism. Any submitted work **MUST BE** an individual effort. Any academic dishonesty will result in zero marks in the corresponding exam or evaluation and will be reported to the department council for record keeping and for permission to assign F grade in the course. The department policy on academic integrity can be found at: http://cse.nitc.ac.in/sites/default/files/Academic-Integrity_new.pdf.

General Instructions

- There are two ways to prepare and submit the answers to the assignment. The second one is preferred and may fetch bonus marks.
 - You may draw the automata in a long hand, that is using paper and pen, scan them and upload them (in one file) on the eduserver.
 - You may draw the automata as one \LaTeX document and upload the PDF file on the eduserver.
- You may consult the course notes, slides, recordings and internet for definitions etc. You **MUST NOT** obtain solutions from the internet.
- You **MUST NOT** discuss among yourselves. Though, you may discuss with me by mail or by phone – my number is 9962326989.

EXERCISE

(10 Marks)

Compute the formula automata for the following LTL formula inputs:

1. XFp
2. XGp
3. FXp
4. GFp
5. XXp
6. FFp
7. GGp
8. FGp
9. GFp
10. $Fp \vee Fq$
11. $Gp \wedge Gq$
12. $F(p \rightarrow Gq)$
13. $G(p \rightarrow Fq)$
14. $F(p \rightarrow Xq)$
15. $G(p \rightarrow Xq)$