Flip Class Activity Report

<table>
<tr><td colspan="2" align="center">**ACTIVITY REPORT**</td></tr>
<tr><td>**Academic Year**</td><td>2023-24</td></tr>
<tr><td>**Activity Title**</td><td>Flip class</td></tr>
<tr><td>**Course**</td><td>CST301 Formal Languages and Automata Theory</td></tr>
<tr><td>**Brief Description**</td><td>The activity has been done to analyse the self learning capability of students</td></tr>
<tr><td>**Intended students**</td><td>Semester 5 CSE students</td></tr>
<tr><td>**Prepared by**</td><td>Ms. Jomy George</td></tr>
<tr><td>**Date**</td><td>4-12-2023</td></tr>
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The following topics were given for preparation:

- Automata Simulator
- Automata Tutor
  How this is used to simulate NFA, DFA, PDA, Chomsky Normal Form

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Classroom Assessment Methodology (TLP) followed:

During the class students were asked to submit a presentation on the topic shared .There were total 54 students participated in this Activity .The flip class was conducted to check the knowledge ,analysis and self-learning capability of the students to solve the problem given

1. Explain a formal representation of a given regular language as a finite state automaton, regular grammar, regular expression and Myhill-Nerode relation.
   [Cognitive knowledge level: Understand].
2. Design a Pushdown Automaton and a Context-Free Grammar for a given context-free language. [Cognitive knowledge level : Apply].

FAFL automata simulator

Brief introduction to create an automata simulator in FAFL
www.youtube.com

https://youtu.be/CWvxp96uKj4?si=2TOssfy99tTG5cMk

12:50 pm ✓✓

Automaton Simulator

Finite State Machine simulator for Deterministic Finite A...
automatonsimulator.com

https://automatonsimulator.com/

12:50 pm ✓✓

Automata Tutor   12:50 pm ✓✓

Go through the online tools do NFA,DFA,CNF,PDA,Turing Machine on these

12:51 pm ✓✓

Automata Tutor v3

Solve Grammar to CNF (Comsky Normalform) problem

Problem

For the grammar G with the productions:

S -> a S b | x | S S

Give a CNF G' such that L(G') = L(G) \ {ε}
(remember: CNF allows only productions with the form "X -> Y Z" or "X -> a")

HELP: Grammar Syntax	+

```
S->DE
S->x
S->SS
D->CS
E->b
C->a
```

Submit

Grade: 10/10

AutomatonSimulator: DFA
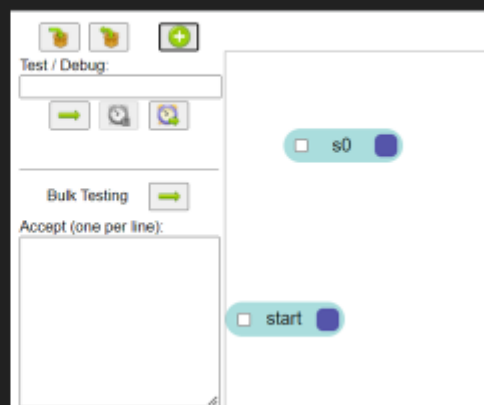
https://automatonsimulator.com/

UI

Adding States

Add new state my pressing the plus icon.

Conclusion	
	The students had a good discussion regarding the topics and attained PO1 ,PO5 and 12 for the given topic.