

## Project Description

It is required to build a DFA Generator that takes input NFA and strings and test whether the string is accepted or rejected.

The Project will be discussions will be hold in two phases.

**Phase 1:** Convert the NFA into DFA (states, transitions)

Input: NFA (states, transitions)

	a	b	c	$\epsilon$
1	2	----	----	----
2	----	4	----	----
4	----	----	----	8
5	----	----	6	----
6	----	----	----	8
7	----	----	----	{1,5}
8	----	----	----	{10,7}
9	----	----	----	{10,7}
10	----	----	----	----

Start state: 9

Final state: {10}

Output: Equivalent DFA (states, transitions)

	a	b	c
A	B	----	C
B	----	D	----
C	B	----	C
D	B	----	C

Start state: A

Final state: {A, C, D}

## **Phase 2:** String Testing

Input: String to test.

Output: “accepted” or “rejected”.

### **Notes:**

- 1) You can form a team of 4-5 members and fill this [\(Form link\)](#) by due (22/11/2022)
- 2) You can use any programming language that you prefer.
- 3) If you will use an external library, please send to me an email explaining what this library is used for and don't use it until I give the permission to.
- 4) A discussion will with all group members, all members should participate in implementation.
- 5) **Very important: any plagiarism detected will lead to losing the project marks.**

### **Timeline:**

Form Teams	22/11/2022
Project Phase 1 Submission	28/11/2022
Project Phase 1 Discussion	29/11/2022 (lab time)
Project Phase 2 Submission	2/1/2022
Project Phase 2 Discussion	3/1/2022 (lab time)

### **Evaluation:**

Phase 1: 15 marks

Phase 2: 5 marks

**Bonus:** make a graphical representation of the NFA and DFA using coding (do not draw it manually)