



Final Research
2019/2020 Second Semester

Theory of Computation CS323

- **Write a research about one of the following topics**

Topic 1: Design of Language $\{a^m b^n \mid m, n \geq 1\}$

Design of recognition machines and tools for the language of a sequence of a's followed by a sequence of b's of same or different number.

Topic 2: Design of Language of odd number of a's

Design of recognition machines and tools for the language of a sequence of a's of odd number

Requirements

Each group should deliver a report that contains the following sections: -

- 1) Introduction
- 2) Design of regular expression
- 3) Design of NFA
- 4) Design of DFA
- 5) Design of Context-free grammar
- 6) Design of PDA
- 7) Design of Turing machine

- **General Instructions:**

1) This report can be done by a team up to 5 students.

2) Choose one of the following two research topics:

A) " Topic I ".

B) " Topic II ".

3) You can use any reference and any other external resources.

4) The report must contain the student names in Arabic, student IDs in English, and the chosen project name.

6) The report must consist of all previous sections.