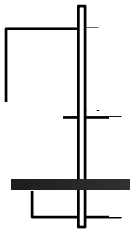
Advance Theory of Computation



Spring 2020

Abasyn University

Instructor Contacts

- Instructor:

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Objectives

- Introduce concepts in automata theory and theory of computation
- Identify different formal language classes and their relationships
- Design grammars and recognizers for different formal languages
- Prove or disprove theorems in automata theory using its properties
- Determine the decidability and intractability of computational problems

Course Organization

- Very broadly, the course will contain three parts:
  - Part I) Regular languages
  - Part II) Context-free languages
  - Part III) Turing machines & decidability

Pre-requisites

- Data Structures
- Discrete Structures

Required Textbook

- Introduction to Automata Theory, Languages and Computation
  - By J.E. Hopcroft, R. Motwani, J.D. Ullman
  - 3rd Edition
  - Addison Wesley/Pearson

Grading

- Assignment (5%)
- Quiz (5%)
- Project (20%)
- Midterms (30%)
- Final (40%)

Lecture basics

- Classes will involve *both Slides + Board*
- Lecture slides will be available to Class CR