Review (Midterm-1)

Professor: Suman Saha

Midterm-1

Date and Time:

29th September at 8:10 PM – 10:00 PM.

Duration: 1 Hour 50 Minutes

Location:

• Deike 022: Students whose last names begin with 'A' to 'D'

• Forum 105: Students whose last names begin with 'E' to 'O'

• Forum 108: Students whose last names begin with 'P' to 'Z'

Arrive on time (ideally 10 minutes early)

Exam Format

- The exam consists of 7 questions, with a total of 20 marks considered towards bonus points making it a total of 100 points.

- *How bonus points work:*
  - The maximum points you can earn is 80 points.
  - If you get all seven questions correct, you will still get 80 points.
  - If you get less than 80 points in the whole exam, you can get up to 20 points from the bonus to reach 80 points.

- Create Regular Expression
- Write down the set of strings recognized by the given regular expression
- Design NFA and DFA for given set of strings
- Convert Regular expression to DFA/NFA

Syntax Analysis

- Constructing Grammar (Context-free, BNF, EBNF)

- Leftmost and Right most derivation

- Top-down and Bottom-up parsing

- Ambiguous Grammar

- Convert Ambiguous to Unambiguous grammar

- Abstract Syntax Tree

- First, Follow, and Parsing Table

Name, Scope and Bindings

- Lifetime, Scope and binding of variable
- Understanding Stack(including call stacks), Heap and Static Data Segments
- Static and dynamic scope
- Constructing Symbol tables
- Shallow and Deep binding
- Static and dynamic link with call stacks