CSC326 COMPILER CONSTRUCTION

Learning Outcomes

- To understand the principles and techniques used to perform translation and the fundamental concepts of translator construction.
- To appreciate the concepts of compiler construction.
- To acquaint students with software tools and techniques which are applicable both to compilers and the implementation of system utility routines, command interpreters, etc.
- To construct compilers.

Content

Compilers and Interpreters. Overview of the compilation process: The phases of compilation: Lexical analysis, syntax analysis, semantic analysis, code generation; Issues in compiler design: symbol tables, program compilation, loading and execution; Compilation techniques: One pass and two pass. Run-time storage management. Object code for subscripted variables; A simple complete compiler: Organization, Subroutine and function compilation, Bootstrapping techniques, Multi pass compilation; Optimization: techniques, local, expressions, loops and global Optimization. Software tools for compiler construction: Lexical analyzers; parser generators.

Pre-requisites

- CSC211 Data Structures and Algorithms
- CSC213 Computer Architecture
- CSC216 Assembly Language Programming
- CSC222 Automata Theory
- CSC223 Operating Systems

Delivery

Lectures, Tutorials and Labs.