

CS 101 Introduction to Computing (3-0-0-6)

Introduction: The von Neumann architecture, machine language, assembly language, high level programming languages, compiler, interpreter, loader, linker, text editors, operating systems, flowchart; Basic features of programming (Using C): data types, variables, operators, expressions, statements, control structures, functions; Advanced programming features: arrays and pointers, recursion, records (structures), memory management, files, input/output, standard library functions, programming tools, testing and debugging; Fundamental operations on data: insert, delete, search, traverse and modify; Fundamental data structures: arrays, stacks, queues, linked lists; Searching and sorting: linear search, binary search, insertion-sort, bubble-sort, selection-sort, radix-sort, counting-sort; Introduction to object-oriented programming

Texts:

- [1] . A Kelly and I Pohl, A Book on C, 4th Ed., Pearson Education, 1999.
- [2] A M Tenenbaum, Y Langsam and M J Augenstein, Data Structures Using C, Prentice Hall India, 1996.

References:

- [1] H Schildt, C: The Complete Reference, 4th Ed., Tata Mcgraw Hill, 2000
- [2] B Kernighan and D Ritchie, The C Programming Language, 4th Ed., Prentice Hall of India, 1988