1. Write a LISP Program to search, insert and delete element from a list. [6]
2. Write a LISP Program to modify a database dynamically. [3]
3. Write a program in MATLAB to implement DFS algorithm. The input to the program should be a problem in production system representation and specified a Goal. The output should indicate success or failure to arrive at the Goal. If the Goal is arrived at, it will indicate the search path to have arrived at the goal. [6]
4. Implement problem 3 with BFS algorithm. [3]
5. Write a program in MATLAB to implement iterative Deepening Depth-First Search. [3]
6. Write a program in MATLAB to implement steepest ascent hill climbing. [3]
7. Write a program in MATLAB to implement AND-OR graph with AO* heuristics. Input should be Production System Representation. [3]
8. Write a program in MATLAB to implement a game of 8-puzzle. The input should be any initial board position and output should be any other board position. The output should indicate the search path to go about the solution. The heuristic to be used is Steepest Ascend Hill Climbing. The evolution Function/ heuristic function is the total number of misplaced times. [6]
9. Write a program in MATLAB to implement the game of Rubik’s cube using Steepest Ascend Hill Climbing. The evolution function/ heuristic function are the total number of colour difference in each face of the original cube. The rule is to move each sub cube a step of 90 degrees. [6]

Reference Book:

COMMON LISP: A Gentle Introduction to Symbolic Computation, David S. Touretzky, Carnegie Mellon University