National Institute of Technology Calicut

Department of Computer Science and Engineering

CS4023D Artificial Intelligence - Monsoon 2022-23

Assignment 1 | Due Date: 16 Nov 2022 | Total Marks: 10

Instructions:

1: You can use any programming language of your choice.

2: Prepare a PDF file containing screen shots of results for each case along with justifications for the conclusions that you make as well for the results obtained.

3: Compress your source files and the above PDF file into a single file and upload that file in the link provided in the Eduserver course page.

1. [10 Marks] A *Caesar cipher* is an encryption scheme based on cyclic permutations of the alphabet, with the i-th letter of the alphabet replaced by (i+n)-th letter of the alphabet. For example in a Caesar cipher with a shift of 4, "Caesar" would be encrypted as "Geiwev".

Question-1: Provide three heuristics that might be used for solving Caesar ciphers.

Question-2: Develop program to generate state space graphs corresponding to the application of above heuristics in decoding a cipher as mentioned below:

Decode the cipher corresponding to your first name with n=4.

(a): Demonstrate search on the state space graph generated using Greedy and Hill climbing methods. Compare the results obtained in both cases.
