

CSL 333 ASSIGNMENT 1: STRING MAPPING

Group Members:K.Sai Vignan (2012CS50289)
V.Bhargav Reddy(2012CS50301)

Part1:Optimal Part

In these part we have used the **IDA*** algorithm .The nodes are generated from the root node containing the K null strings and the cost(g)=0.From the root successors are generated by taking a character from the tests given or a '-' So, at every node $2^K - 1$ successors are generated and these goes on until the bound of the root is touched and the entire tree is traversed.Goal is detected when all the tests strings are traversed totally.At the every leaf nodes we note the minimum number to be increased of the bound and we will update it to this.

Heuristic(h):We have used the Dynamic programming of LCS to store the Least subsequence length of each pair .It is calculated at the start and also we store the IDA* optimal cost of the each substring of the pairs of the input tests.The heuristic is the sum of the IDA* optimal cost of the remaining substring of the current state of the string which we will get directly from the IDA* table plus the Dashes to be included *CC.As we are using IDA* for the small inputs it will make more time.

Part 2:Suboptimal Part

In these part we have used the greedy hill climbing and the random restart and the IDA* of the first part is used.

Students we have discussed with:Kyasa Rohit,Rahman