PROGRAM :--

#include <stdio.h>

#include <string.h>

#define MAX 100

void eliminateLeftFactoring(char productions[MAX][MAX], int n) {

for (int i = 0; i < n; i++) {

char firstChar = productions[i][0];

int j = i + 1;

int k = 0;

char newProduction[MAX] = "";

int hasCommonPrefix = 0;

while (j < n) {

if (productions[j][0] == firstChar) {

hasCommonPrefix = 1;

strcat(newProduction, &productions[j][1]);

strcat(newProduction, "|");

}

j++;

}

if (hasCommonPrefix) {

printf("Left Factoring for %s: %c -> %c' | %s\n", productions[i], firstChar, firstChar, newProduction);

} else {

printf("%s\n", productions[i]);

}

}

}

int main() {

char productions[MAX][MAX] = {

"A -> aB | aC | bD",

"B -> bA | a",

"C -> cA | d"

};

int n = 3;

eliminateLeftFactoring(productions, n);

return 0;

}

OUTPUT:--

