**PROGRAM 7 :-**

#include <stdio.h>

#include <string.h>

#define MAX 100

// Function to eliminate left factoring

void eliminateLeftFactoring(char nonTerminal, char commonPrefix[], char option1[], char option2[]) {

char newNonTerminal = nonTerminal + '\''; // Create a new non-terminal A'

printf("Grammar after removing left factoring:\n");

printf("%c -> %s%c'\n", nonTerminal, commonPrefix, newNonTerminal); // A -> αA'

printf("%c' -> %s | %s\n", newNonTerminal, option1, option2); // A' -> β1 | β2

}

int main() {

char nonTerminal, commonPrefix[MAX], option1[MAX], option2[MAX];

// Input format: A α β1 β2

printf("Enter the grammar (Format: A α β1 β2):\n");

scanf(" %c %s %s %s", &nonTerminal, commonPrefix, option1, option2);

eliminateLeftFactoring(nonTerminal, commonPrefix, option1, option2);

return 0;

}

**OUTPUT:-**

