**PRIYANSH SALIAN**

**EXPERIMENT 10**

#include <stdio.h>

#include <string.h>

#define SIZE 10

// A->Ba|Aa|c

// B->Bb|Ab|d

int main()

{

    char non\_terminal;

    char beta, alpha;

    int num;

    char production[10][SIZE];

    int index = 3; /\* starting of the string following "->" \*/

    printf("Enter Number of Production : ");

    scanf("%d", &num);

    printf("Enter the grammar as E->E-A :\n");

    for (int i = 0; i < num; i++)

    {

        scanf("%s", production[i]);

    }

    for (int i = 0; i < num; i++)

    {

        printf("\nGRAMMAR: %s", production[i]);

        non\_terminal = production[i][0];

        if (non\_terminal == production[i][index])

        {

            alpha = production[i][index + 1];

            printf(" is left recursive.\n");

            while (production[i][index] != 0 && production[i][index] != '|')

                index++;

            if (production[i][index] != 0)

            {

                beta = production[i][index + 1];

                printf("Grammar without left recursion:\n");

                printf("%c->%c%c\'", non\_terminal, beta, non\_terminal);

                printf("\n%c\'->%c%c\'|E\n", non\_terminal, alpha, non\_terminal);

            }

            else

                printf("Can't be reduced\n");

        }

        else

            printf(" not left recursive.\n");

        index = 3;

    }

}

**OUTPUT:-**

