1. Write a C program to check whether a given string belongs to the language defined by a Context Free Grammar (CFG)

S → A101A, A → 0A | 1A | ε

PROGRAM:

#include<stdio.h>

#include<stdlib.h>

#include<ctype.h>

#include<string.h>

int main(){

char str[20];

int l,i,flg=0;

printf("\n\t\tS --> A101A \n\t\tA --> 0A | 1A | EPS");

printf("\nenter the string: ");

scanf("%s",str);

l=strlen(str);

for(i=0;i<l-2;i++){

if((str[i]!='1')&&(str[i]!='0')){

printf("\nINVALID CHARECTER");

exit(0);}

}

for(i=0;i<l-2;i++){

if((str[i]=='1')&&(str[i+1]=='0')&&(str[i+2]=='1')){

flg=1;

break;

}

}

if(flg==1)

printf("\nVALID STRING");

else

printf("\nINVALID STRING");

}

OUTPUT:

