**CSA1336**

**THEORY OF COMPUTATION**

EXP NO : 8

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

**AIM :**

To write a C program to check whether a string belongs to the grammar

S -> A 1 0 1 A

A -> 0 A | 1 A | ε

**PROGRAM :**

#include<stdio.h>

#include<string.h>

int main()

{

char s[100];

int i,flag,flag1;

int l;

printf("enter a string to check:");

scanf("%s",s);

l=strlen(s);

flag=1;

for(i=0;i<l;i++)

{

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

{

flag=0;

}

}

if(flag==1)

printf("string is Valid\n");

else

printf("string is Not Valid\n");

if(flag==1)

{

flag1=0;

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

{

if(s[i]=='1')

{

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

{

flag1=1;

printf("Substring 101 exists. String accepted\n");

break;

}

}

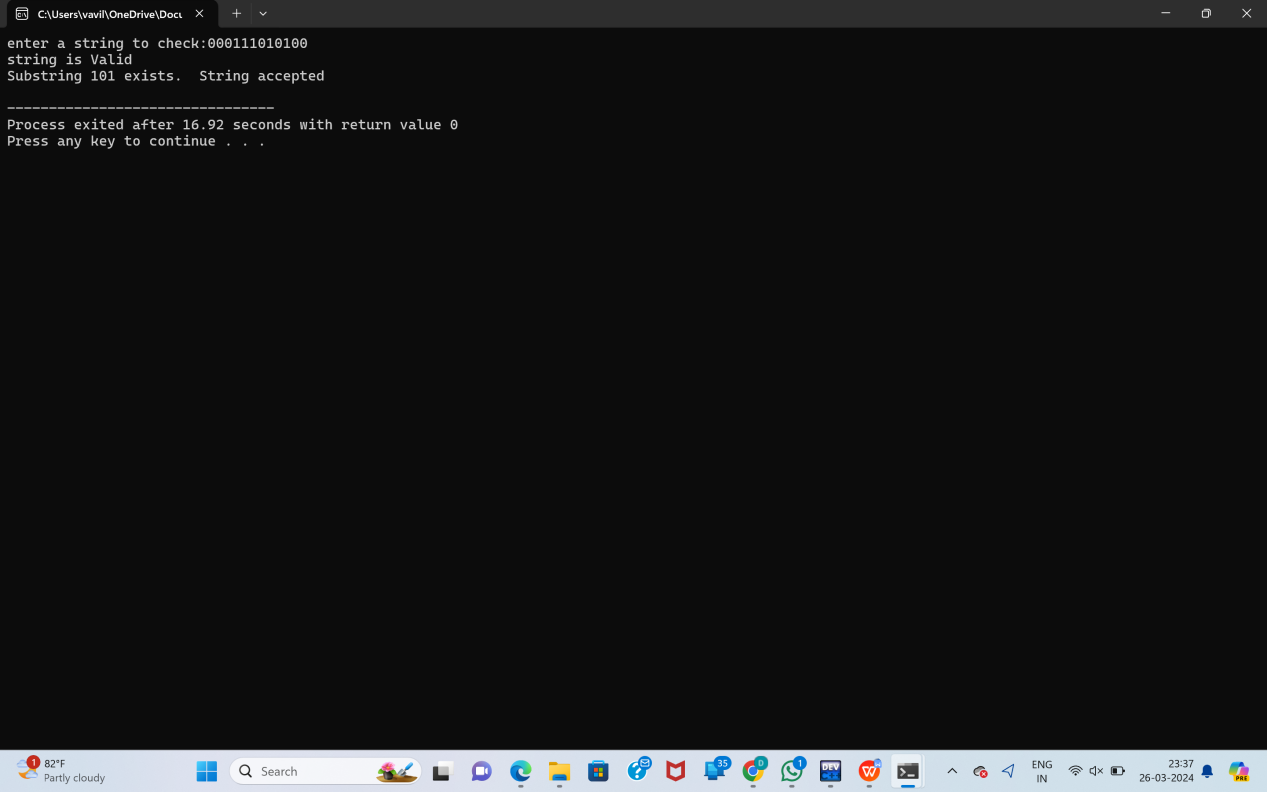
}

if(flag1==0)

printf("Substring 101 does not exist. String not accepted\n");

}

}

**Output:**