1. Write a C program to simulate a Non-Deterministic Finite Automata (NFA) for the given languagerepresenting strings that start with o and end with 1

Program:

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

#include<ctype.h>

void validate();

int s\_table[3][2]={{0,1},{0,1}},i,f;

char str[10];

int main(){

printf("enter the string :");

scanf("%s",str);

for(i=0;str[i]!=NULL;i++)

if(isalpha(str[i])){

f=1;

break;}

for(i=0;i<strlen(str);i++){

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

f=1;

break;

}

}

if(f==1)

printf("INVALID CHARECTERS");

else

validate();

}

void validate(){

int l=strlen(str),c\_state=0,f\_state=1,x;

if(str[0]=='0'){

printf("0");

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

if(str[i]=='0')

x=0;

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

x=1;

c\_state=s\_table[c\_state][x];

printf("-->%d",c\_state);

if(c\_state==5)

exit(0);

}

}

if(c\_state==f\_state)

printf("VALID STRING");

else

printf("INVALID STRING");

}

Output:

