1.Write a C program to simulate a Deterministic Finite Automata (DFA) for the given language representing strings that start with a and end with a

Program:

#include<stdio.h>

#include<conio.h>

#include<string.h>

int validate(char[]);

int s\_table[3][2]={{1,5}

,{2,1}, {2,1}};

char str[10];

int main(){

int i,j,k;

printf("\n\tTHIS DFA WILL HANDLE THE STRINGS WHICH START AND END WITH A");

printf("\nEnter any string: ");

scanf("%s",str);

validate(str);

}

int validate(char str[]){

int c\_state=0,f\_state=2,i,x=1;

int l=strlen(str);

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

printf("0");

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

if(str[i]=='a'){

x=0;

}

else if(str[i]=='b'){

x=1;

}

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

if(c\_state==5)

break;

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

}

if(c\_state==f\_state)

printf("\nVALID STRING");

else

printf("\nINVALID STRING");

}

Output:

