**EX NO 1**

Write a C program to simulate a DFA that starts and ends with a.

**PROGRAM:**

#include<stdio.h>

#include<string.h>

#define max 20

intmain()

{

inttrans\_table[4][2]={{1,3},{1,2},{1,2},{3,3}};

intfinal\_state=2,i;

intpresent\_state=0;

intnext\_state=0;

int invalid=0;

char input\_string[max];

printf("Enter a string:");

scanf("%s",input\_string);

int l=strlen(input\_string);

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

{

if(input\_string[i]=='a')

next\_state=trans\_table[present\_state][0];

else if(input\_string[i]=='b')

next\_state=trans\_table[present\_state][1];

else

invalid=l;

present\_state=next\_state;

}

if(invalid==l)

{

printf("Invalid input");

}

else if(present\_state==final\_state)

printf("Accept\n");

else

printf("Don't Accept\n");

}

**OUTPUT:**

