DFA:

#include<stdio.h>

#include<string.h>

#define max 20

int main()

{

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

int final\_state=2,i;

int present\_state=0;

int next\_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");

}

STRING BELONGS TO THE GRAMMAR S-🡪0A1,A-🡪0A/1A/E

|  |
| --- |
| #include<stdio.h> |
|  |  | #include<string.h> |
|  |  | int main(){ |
|  |  | char s[100]; |
|  |  | int i,flag; |
|  |  | 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 Not Valid\n"); |
|  |  | if(flag==1) |
|  |  | { |
|  |  | if (s[0]=='0'&&s[l-1]=='1') |
|  |  | printf("string is accepted\n"); |
|  |  | else |
|  |  | printf("string is Not accepted\n"); |
|  |  | } |
|  |  | } |

SRING OF THE GARMMAR S-🡪0S0/1S1/0/1/E

|  |
| --- |
| #include<stdio.h> |
|  |  | #include<string.h> |
|  |  | int main(){ |
|  |  | char s[100]; |
|  |  | int i,flag; |
|  |  | 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 Not Valid\n"); |
|  |  | if(flag==1) |
|  |  | { |
|  |  | if (s[0]=='0'&&s[l-1]=='1') |
|  |  | printf("string is accepted\n"); |
|  |  | else |
|  |  | printf("string is Not accepted\n"); |
|  |  | } |
|  |  | } |

STRING BELONGS TO A GRAMMAR S-🡪0S0/A,A-🡪1A/E

|  |
| --- |
| #include<stdio.h> |
|  |  | #include<string.h> |
|  |  | int main(){ |
|  |  | char s[100]; |
|  |  | int i,flag; |
|  |  | 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 Not Valid\n"); |
|  |  | if(flag==1) |
|  |  | { |
|  |  | if (s[0]=='0'&&s[l-1]=='1') |
|  |  | printf("string is accepted\n"); |
|  |  | else |
|  |  | printf("string is Not accepted\n"); |
|  |  | } |
|  |  | } |

STRING BELONGS TO A GRAMMAR S🡪0S1/E

|  |
| --- |
| #include<stdio.h> |
|  |  | #include<string.h> |
|  |  | int main(){ |
|  |  | char s[100]; |
|  |  | int i,flag; |
|  |  | 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 Not Valid\n"); |
|  |  | if(flag==1) |
|  |  | { |
|  |  | if (s[0]=='0'&&s[l-1]=='1') |
|  |  | printf("string is accepted\n"); |
|  |  | else |
|  |  | printf("string is Not accepted\n"); |
|  |  | } |
|  |  | } |

STRING BELONGS TO THE GRAMMAR S-🡪A101A,A--🡪0A/1A/E

|  |
| --- |
| #include<stdio.h> |
|  |  | #include<string.h> |
|  |  | int main(){ |
|  |  | char s[100]; |
|  |  | int i,flag; |
|  |  | 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 Not Valid\n"); |
|  |  | if(flag==1) |
|  |  | { |
|  |  | if (s[0]=='0'&&s[l-1]=='1') |
|  |  | printf("string is accepted\n"); |
|  |  | else |
|  |  | printf("string is Not accepted\n"); |
|  |  | } |
|  |  | } |