Write a C program to implement a DFA for the regular expression (a/b)*abb using if-else.

Algorithm:

Input: A string with characters a and b.
Output: Whether the given string is valid or not.
Data structures: Array

Step 1: Initialize a character array and input the string.
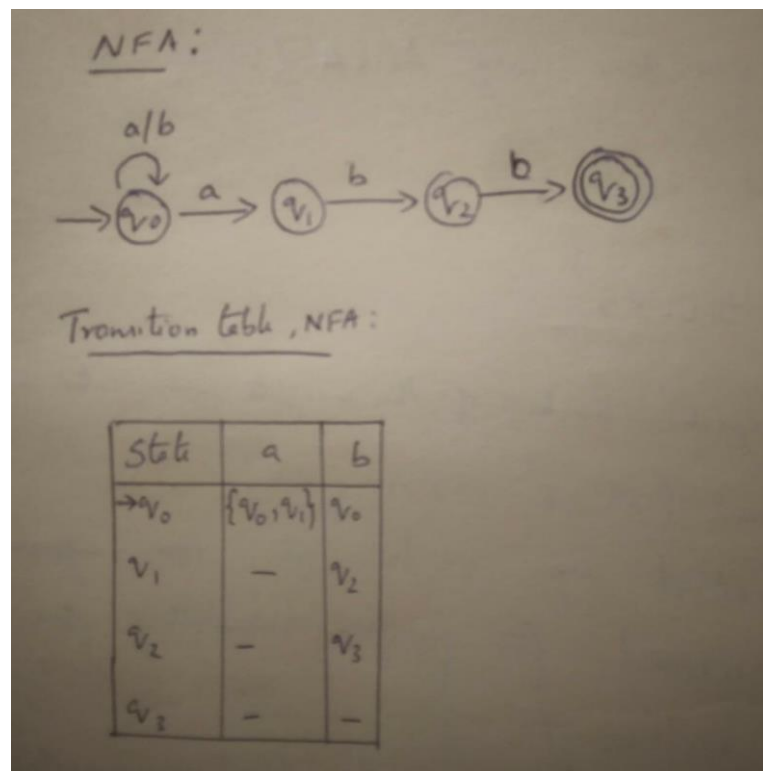Step 2: Declare two integer variables, state and i.
Step 3: while input[i]!='\0', do
    3.1: if input are neither of a and b then set state = -1, exit.
    3.2: if input a or b, set state=new state.
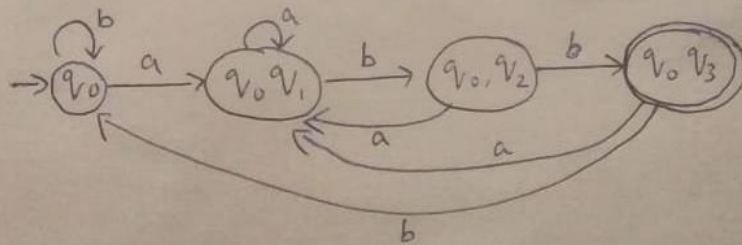   3.3: else set state=-1.
Step 4: if state is equal to final state print valid string else print invalid string.

Transition table, DFA:

state	a	b
→ q_0	$[q_0, q_1]$	q_0
$[q_0, q_1]$	$[q_0, q_1]$	$[q_0, q_2]$
$[q_0, q_2]$	$[q_0, q_1]$	$[q_0, q_3]$
$[q_0, q_3]$	$[q_0, q_1]$	q_0

Output:

```
PS D:\Coding\c\Albert Augustine> cd "d:\Coding\c\Albert Augustine\" ; if ($?) { gcc 02.c -o 02 } ; if ($?) { .\02 }
Enter the input string :
abababb
VALID STRING
PS D:\Coding\c\Albert Augustine> cd "d:\Coding\c\Albert Augustine\" ; if ($?) { gcc 02.c -o 02 } ; if ($?) { .\02 }
Enter the input string :
abbab
INVALID STRING
PS D:\Coding\c\Albert Augustine> cd "d:\Coding\c\Albert Augustine\" ; if ($?) { gcc 02.c -o 02 } ; if ($?) { .\02 }
Enter the input string :
babb
VALID STRING
```