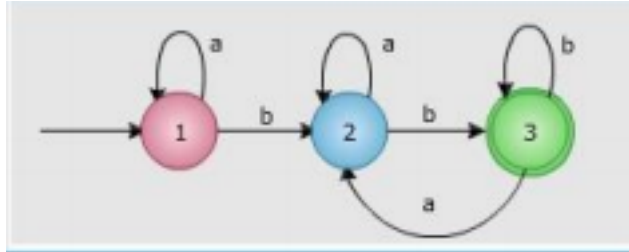


OBJECTIVE-3

AIM:-Write a program in C to construct the DFA given below:



The program should take any string of a and b as input and display the acceptance and rejection of the string as output.

```
#include <stdio.h>
#include <string.h>
int dfa = 0;
void startstate(char c)
{
    if (c == 'a') {
        dfa = 0;
    }
    else if (c == 'b') {
        dfa = 1;
    }
}

else {
    dfa = -1;
}

void state1(char c)
{
    if (c == 'a') {
        dfa = 1;
    }
    else if (c == 'b') {
        dfa = 2;
    }
    else {
        dfa = -1;
    }
}

void state2(char c)
```

```

{
if (c == 'b') {
dfa = 2;
}
else if (c == 'a') {
dfa = 1;
}
else {
dfa = -1;
}
}

```

```

int isAccepted(char str[])
{
int i, len = strlen(str);
for (i = 0; i < len; i++) {
if (dfa == 0){
startstate(str[i]);
}
else if (dfa == 1){
state1(str[i]);
}
else if (dfa == 2){
state2(str[i]);
}
else{
return 0;
}
if (dfa == 2){
return 1;
}
else{
return 0;
}
}
}

```

```

int main()
{
char str[100];
printf("\nEnter the String:");
scanf("%s",str);
if (isAccepted(str)){
printf("ACCEPTED");
}
}

```

```
}  
else{  
printf("REJECTED");  
}  
return 0;  
}
```

OUTPUT-

```
Enter the String:ababb  
ACCEPTED
```

```
...Program finished with exit code 0  
Press ENTER to exit console.□
```

```
Enter the String:abaabb  
REJECTED
```

```
...Program finished with exit code 0  
Press ENTER to exit console.□
```