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 :-

```c
#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");
```

}

OUTPUT:-

```
Enter a string:abaaab
Accept

Process returned 0 (0x0)    execution time : 7.513 s
Press any key to continue.
```

```
Enter a string:abbbaaaba
Don't Accept

Process returned 0 (0x0)    execution time : 9.710 s
Press any key to continue.
```