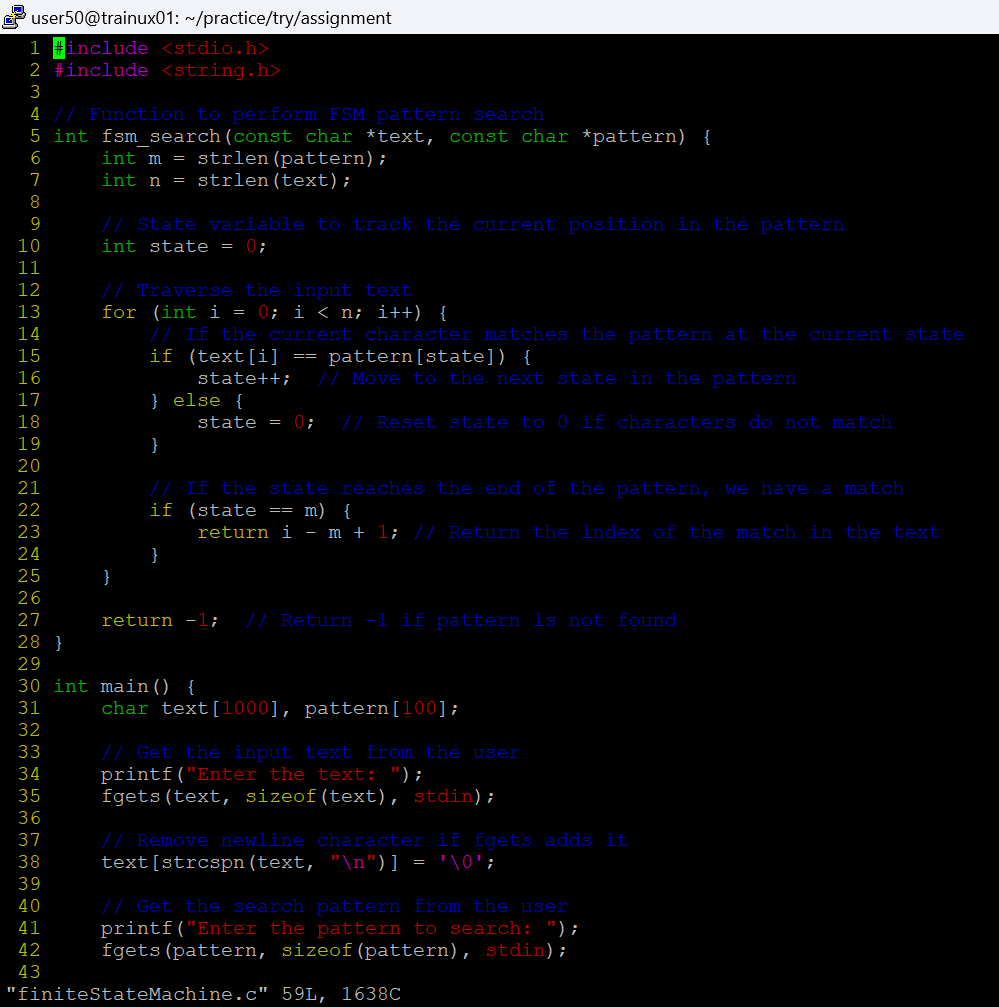
**Finite State Machine assignments**

Mandatory

1. Refer the FSM code to search for a given pattern in input text in file finite\_state\_machine\_regexp.c. Currently it does not work as expected. Fix the issues. Also modify the code to receive input string and search pattern from user.



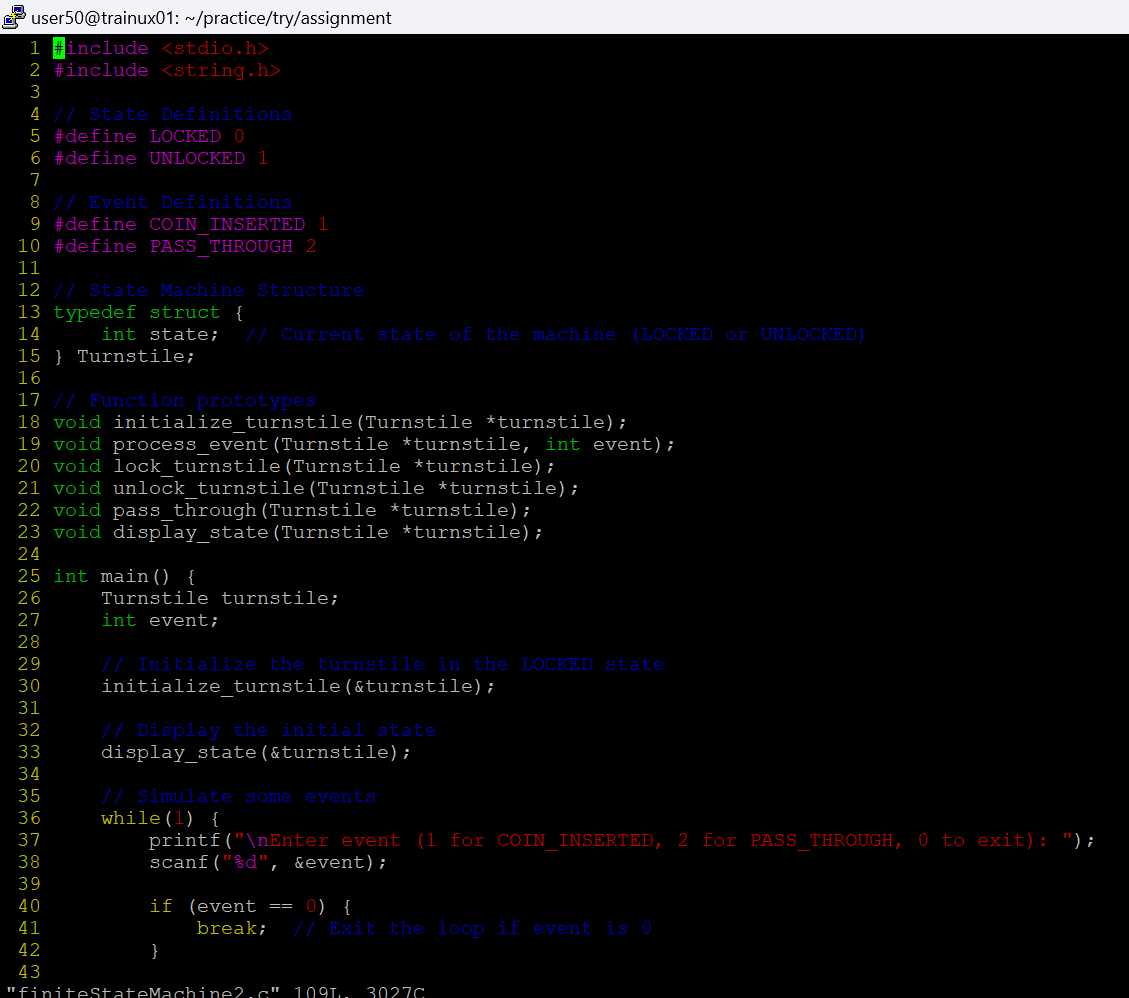
A computer screen with text and symbols

Description automatically generated

A black screen with white text

Description automatically generated

1. In state\_machine\_example1.c, complete the sections marked with TBD.



A screen shot of a computer screen

Description automatically generated

A computer screen shot of text

Description automatically generated

A computer screen shot of a computer screen

Description automatically generated

3. Implement a state machine as per given actions and state transitions below. Draw the complete state transition table.

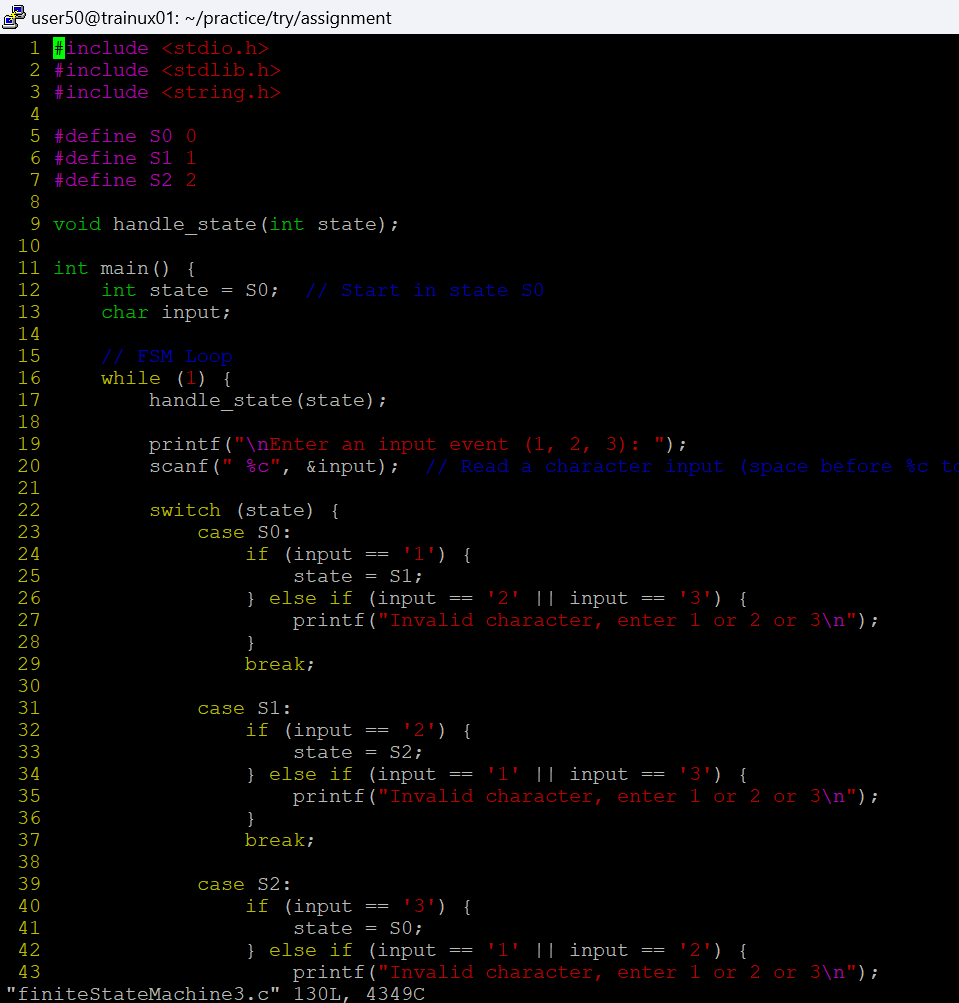
Input Event as a character input Current State Action to perform Next State on action success

‘1’ S0 Prompt, read a string and store in heap S1

‘2’ S1 Prompt, read a search string, search for occurrent of this in earlier stored string, if found display message as “Sub string found” else “Sub string not found” S2

‘3’ S2 Free the memory allocated S0

Any other character X Display “Invalid character, enter 1 or 2 or 3” No state change



A screenshot of a computer program

Description automatically generated

A screen shot of a computer program

Description automatically generated

