1. **Implement a basic finite state automation that recognizes a specific language or pattern. In this example, we’ll create a simple automation to match strings ending with ‘ab’ using Python**

**Aim:**

To implement a basic finite state automation that recognizes a specific language or pattern.

**Code:**

class FiniteStateAutomaton:

def \_\_init\_\_(self):

self.state = 0

def transition(self, char):

if self.state == 0 and char == 'a':

self.state = 1

elif self.state == 1 and char == 'b':

self.state = 2

else:

self.state = 0 if char != 'a' else 1

def is\_accepted(self):

return self.state == 2

def main():

text = input("Enter a string: ")

fsa = FiniteStateAutomaton()

for char in text:

fsa.transition(char)

if fsa.is\_accepted():

print("String is accepted (ends with 'ab').")

else:

print("String is not accepted.")

if \_\_name\_\_ == "\_\_main\_\_":

main()

**Input:**

Enter a string: cab

**Output:**

String is accepted (ends with 'ab').

