Write a well-structured, well-documented recognizer DFSM for the assigned language. The program must be based on a complete DFSM for the language, but you can terminate the program on entering a trap state. As discussed in class, you MUST process one character at a time from left to right simulating a Finite State Machine. No other strategy for your program is allowed.

You must develop a test set file to demonstrate your machine. The test set must contain the following

- 15 non-empty accepted strings of differing lengths and configurations
- 15 non-empty rejected strings of differing lengths and configurations
- the empty string

I will provide a file of strings to you 1-week prior to the due date that must also be run through your program. The well-formatted, easily readable & well-labeled output must include the following, in this order:

1. Your name
2. Empty string - followed by “accept” or “reject”
3. List of your 15 accepted strings followed by “accept” or “reject” - one per line
4. List of your 15 rejected strings followed by “accept” or “reject” - one per line
5. Dr. Halverson’s strings followed by “accept” or “reject” - one per line

You also must turn in a brief, typed technical report on your project. Recommended outline:

I. Introduction - state your language and give the complete DFSM

II. Implementation Information
   a. how your read and processed the strings
   b. overview of programming constructs used for your program

III. Conclusion - Summary

\[ \Sigma = \{ a, b, c \} \text{ for all languages below} \]

Bath - L1 = \{w \in \Sigma^* \mid |w| \text{ is odd and } w \text{ contains the substring acb}\}

Binion - L2 = \{w \in \Sigma^* \mid \text{every cb is immediately followed by aa}\}

Bowen - L3 = \{w \in \Sigma^* \mid |w| \text{ is a multiple of 4}\}

Bowman - L4 = \{w \in \Sigma^* \mid w \text{ does not contain the substring cba}\}

Bynoe - L5 = \{w \in \Sigma^* \mid w \text{ begins with cc and ends with aa}\}

Clark - L6 = \{w \in \Sigma^* \mid w \text{ begins with a and ends with c or begins with c and ends with a}\}

Croston - L7 = \{w \in \Sigma^* \mid \text{every occurrence of bb is immediately followed by cc}\}

Ebelherr - L8 = \{w \in \Sigma^* \mid w\text{'s first character is different from the last character}\}

Fevier - L9 = \{w \in \Sigma^* \mid w\text{'s first character is the same as the last character}\}

Fletcher - L10 = \{w \in \Sigma^* \mid w \text{ begins with a or b and ends with c}\}

Fullagar - L11 = \{w \in \Sigma^* \mid w \text{ begins exactly 1 a and 1 b}\}

Garcia - L12 = \{w \in \Sigma^* \mid w \text{ contains exactly 2 b's, separated by at least one different character}\}
Grayson - L13 = \{w \in \Sigma^* | w \text{ contains an even number of } c\text{'s followed by an odd number of } a\text{'s or an odd number of } b\text{'s}\}

Hackbarth - L14 = \{w \in \Sigma^* | w \text{ contains the substring c}acbc\}

Hazel - L15 = \{w \in \Sigma^* | \text{every } aa \text{ is immediately followed by } c\}

Howard - L16 = \{w \in \Sigma^* | |w| \text{ is a multiple of } 4\}

Hubbard - L17 = \{w \in \Sigma^* | w \text{ contains the substring } acb\}

Hazel - L15 = \{w \in \Sigma^* | \text{every } aa \text{ is immediately followed by } c\}

Howard - L16 = \{w \in \Sigma^* | |w| \text{ is a multiple of } 4\}

Hurst - L18 = \{w \in \Sigma^* | w \text{ begins with } bb \text{ and ends with } bb\}

James - L19 = \{w \in \Sigma^* | w \text{ begins with } a \text{ and ends with } b \text{ or begins with } c\}

John - L20 = \{w \in \Sigma^* | \text{every occurrence of } a \text{ is immediately followed by } bc\}

Kacavas - L21 = \{w \in \Sigma^* | w\text{'s first character is different from the second character}\}

Msacky - L22 = \{w \in \Sigma^* | w\text{'s first character is the same as the second character}\}

Musaruwa - L23 = \{w \in \Sigma^* | w \text{ begins with } a \text{ or } b \text{ and ends with } b\}

Patel - L24 = \{w \in \Sigma^* | w \text{ contains exactly } 2 \text{ } a\text{'s and } 1 \text{ } c\}

Pruitt - L25 = \{w \in \Sigma^* | w \text{ contains exactly one occurrence of substring } bb\}

Rahman - L26 = \{w \in \Sigma^* | w \text{ contains an even number of } a\text{'s } & \text{ends in } c\}

Ramirez - L27 = \{w \in \Sigma^* | w \text{ contains the substring } bbc \text{ but not as a prefix}\}

Rankin - L28 = \{w \in \Sigma^* | aaa \text{ is a suffix of } w \}

Roberts - L29 = \{w \in \Sigma^* | \text{number of } c\text{'s is a multiple of } 3\}

Satterfield - L30 = \{w \in \Sigma^* | w \text{ begins and ends with different characters}\}

Sawyer - L31 = \{w \in \Sigma^* | w \text{ begins with } cc \text{ and ends with } aa \text{ or } ba\}

Taylor - L32 = \{w \in \Sigma^* | w \text{ begins with } a \text{ and ends with and odd number of } c\text{'s}\}

Vann - L33 = \{w \in \Sigma^* | w \text{ has an even number of } a\text{'s, even number of } b\text{'s}\}