ETEC 3402 Lab #1 Name: 50 points

Complete the following tasks. Each task on this lab is all-or-none. Any code that requires a compiler must be demonstrated during lab time or during office hours. All required files must be included with your submission on Blackboard.

Part I

1. (5 points) Create a state diagram of an FA that accepts all valid strings from the MIU system.

2. (5 points) Write the FA in table form.

3. (20 points) Submit a program that implements the FA exactly. The program should take as input any string containing valid characters, process it one character at a time, and output either *Accept* or *Reject* as appropriate.

Part II

1. (20 points) Submit a program that takes any potential MIU string as input. If the string is invalid, output an appropriate response. If the string is valid, output a step-by-step derivation along with the rule used at each step. Your program output should be formatted to be easily readable.