```matlab
% SmartComfortFIS: Fuzzy Logic Controller for a Smart Living Room (MATLAB
compatible)
% Create a new Mamdani-type FIS (modern syntax)
fis = mamfis('Name', 'SmartComfortFIS');
% === Inputs ===
fis = addInput(fis, [10 35], 'Name', 'Temperature');
fis = addMF(fis, 'Temperature', 'trapmf', [10 10 15 20], 'Name', 'Cold');
fis = addMF(fis, 'Temperature', 'trimf', [18 22 26], 'Name', 'Comfortable');
fis = addMF(fis, 'Temperature', 'trapmf', [24 30 35 35], 'Name', 'Hot');
fis = addInput(fis, [0 1000], 'Name', 'Light');
fis = addMF(fis, 'Light', 'trapmf', [0 0 150 300], 'Name', 'Dark');
fis = addMF(fis, 'Light', 'trimf', [200 500 700], 'Name', 'Normal');
fis = addMF(fis, 'Light', 'trapmf', [600 800 1000 1000], 'Name', 'Bright');
fis = addInput(fis, [0 1], 'Name', 'Presence');
fis = addMF(fis, 'Presence', 'trapmf', [0 0 0.2 0.5], 'Name', 'Absent');
fis = addMF(fis, 'Presence', 'trapmf', [0.5 0.8 1 1], 'Name', 'Present');
% === Outputs ===
fis = addOutput(fis, [0 100], 'Name', 'Heater');
fis = addMF(fis, 'Heater', 'trimf', [0 0 25], 'Name', 'Off');
fis = addMF(fis, 'Heater', 'trimf', [10 30 50], 'Name', 'Low');
fis = addMF(fis, 'Heater', 'trimf', [40 60 80], 'Name', 'Medium');
fis = addMF(fis, 'Heater', 'trimf', [70 100 100], 'Name', 'High');
fis = addOutput(fis, [0 100], 'Name', 'LightDimmer');
fis = addMF(fis, 'LightDimmer', 'trimf', [0 0 20], 'Name', 'Off');
fis = addMF(fis, 'LightDimmer', 'trimf', [10 30 50], 'Name', 'Dim');
fis = addMF(fis, 'LightDimmer', 'trimf', [40 60 80], 'Name', 'Medium');
fis = addMF(fis, 'LightDimmer', 'trimf', [70 90 100], 'Name', 'Bright');
% === Rules (numeric format) ===
rules = [
 1 1 2 4 4 1 1; % Cold, Dark, Present => Heater High, Light Bright
 2 3 2 1 2 1 1; % Comfortable, Bright, Present => Heater Off, Light Dim
 3 2 2 1 3 1 1; % Hot, Normal, Present => Heater Off, Light Medium
 1 3 1 3 1 1 1; % Cold, Bright, Absent => Heater Low, Light Off
 2 2 1 2 2 1 1; % Comfortable, Normal, Absent => Heater Low, Light Medium
 3 1 1 1 3 1 1 % Hot, Dark, Absent => Heater Off, Light Medium
];
fis = addRule(fis, rules);
% === Save and visualize ===
writeFIS(fis, 'SmartComfortFIS'); % Save to file
ruleview(fis); % Visual rule viewer
surfview(fis);
% === Test input ===
output = evalfis(fis, [19 250 1])
```