Problem Statement: Build an Interactive MATLAB App for Gas Law Visualization

In thermodynamics, the Ideal Gas Law is a fundamental equation that relates Pressure (P), Volume (V), and Temperature (T) of an ideal gas:

Equation: $PV=nRT$

where:

- P = Pressure (kPa)
- V = Volume (L)
- T = Temperature (K)
- n = Number of moles (assume n = 1)
- R = Universal Gas Constant (8.314 kPa·L/(mol·K))

To better understand this relationship, your task is to create a user-friendly MATLAB App using App Designer that allows users to input known values, calculate the missing variable, and visualize the pressure-volume relationship dynamically.

Task: You will design and develop a MATLAB App that

- Allows users to input two known values (P, V, or T) and selects the third variable to compute.
- Automatically calculates the missing variable using the Ideal Gas Law.
- Displays a dynamic P-V curve, updating as temperature changes.
- Enhances the user experience using interactive UI components (buttons, dropdowns, edit fields, and plots).

Bonus Challenge (Optional)

Enhance the app with additional features:

- Add error handling for invalid inputs (e.g., negative volume).
- Allow users to change the number of moles (n) dynamically.
- Improve UI aesthetics using custom themes and colours.