

Molecular Weight Demonstration  
BE-205, Winter '06-'07, Dr. C. S. Tritt

### **Background and Equations**

This program demonstrates the use of data retrieval from a file to initialize a Matlab GUI program (including popup menu options). The input file (gas.mat) must be created manually in the Matlab command window and using the spreadsheet style data editor. The retrieved data is stored in the handles structure for use in the popup menu callback.

### **GUI Controls**

molWt – Output static text (for molecular weight in kg/kmole).  
gasChoice – Popup menu for gas selection.

### **File Structure**

File name: gas.mat

Contents...

Description – String description of file contents.

Version – A double value indicating version.

Gas – 1xN cell array containing gas choice names (as strings).

M – 1xN double array containing molecular weights (kg/kmole).

Tcr – 1xN double array containing critical temperatures (K).

Pcr – 1xN double array containing critical pressures (MPa).

vcr – 1xN double array containing critical volumes ( $\text{m}^3/\text{kmole}$ ).