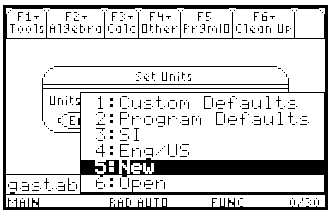
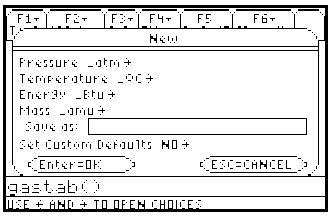
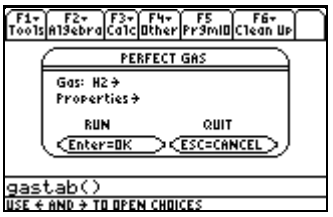
This program uses a database and linear interpolation method to provide data relative to Temperature, Internal Energy, Enthalpy and Entropy of the most common gases. For the last one, Pressure is taken into account. Knowing one of the first 4 variables and the Pressure (that influences only the Entropy) the others are obtained. If never Entropy nor Pressure are known, Pressure is equal to 1 bar per default.
In addition for each gas is provided a list of some fundamental constants: Critic Pressure, Critic Temperature...
The program supports all units: you can chose to use program defaults units (with display digits control), SI Units, Eng/US units or custom units that you can save and/or set like default:

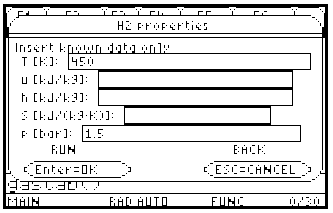




Example with Program Defaults
You know Temperature (450 K) and Pressure (1.5 bar) and you want Entropy, Enthalpy and Internal Energy of H2.
Enter gastab() and select the gas you want and Properties

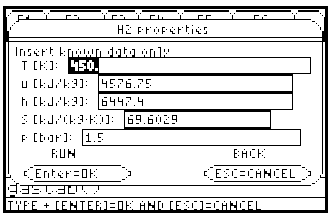


Enter

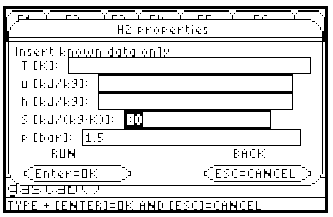


Enter

And you'll have:

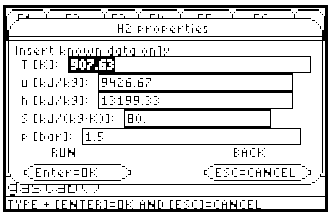


If you know the Entropy ($80 \frac{kJ}{Kg \cdot K}$) and Pressure (1.5 bar) and you want T,u,h



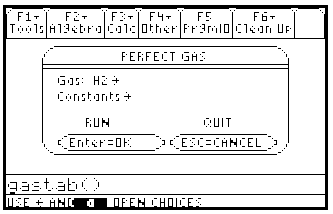
Enter

You will have:

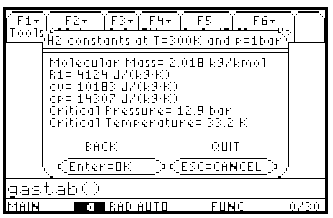


If you want to know H2 constants

Back and select constants



Enter



Usually you need to know Pressure (p) or Entropy (S), if don't know S neither p the program takes p=1 bar per default.

This program has been already used many times without problems. If you find any bug first assure you to have selected the English language in the Mode and not to have translated the code with any program. If the problem persists, please, let me know.
For a better and faster answer, please, enclose some screenshot of the bug: entered inputs, expected outputs, error messages, erroneous code line, Mode setting… it will help me very much!
My address is paolosilingarditi@interfree.it; write **TI-Program** as Object of e-mail**!**

IN ORDER TO PREVENT SPAMMING, E-MAIL WITHOUT THE CORRECT OBJECT WILL BE AUTOMATICALLY DELETED!

You can find all my programs at this address:
http://www.ticalc.org/archives/files/authors/44/4458.html.

Remember to vote this program in the site!

Paolo Silingardi