FREE SOFTWARE IN HELP TO RESOLUTION OF BASIC PROBLEMS IN ENGINEERING CHEMISTRY

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ABSTRACTS

Octave is a free software, licensed by GPL, that receives contributions in its development and improvement from people and entities of all the world. The term "free software" is matters of the user's freedom to run, copy, distributes, study, change and improve the software. Can say it is the similar free for the proprietary MATLAB. Octave is interactive software, whose basic elements are matrix (that don't need defined dimension) used for computational calculus, scientific and of engineering and graphical visualization.

The software presents syntactic structures of program similar to the high level languages like BASIC, FORTRAN, PASCAL and C, but its utilization is simpler, due principally to the facility of entrance and exit of the data. The Octave is a platform of application's development, where wholes of intelligent tools for problem's resolution in specifically applications, called toolboxes, can be developed with relative facility. Some of the more important toolboxes are: control systems, statistics and signal processing.

The objective of this work is introducing the free software Octave, and shows its utilization in help to resolution of various basic problems in subjects of: Introduction to Chemical Engineering, Thermodynamics, Transport Phenomena, Chemical Engineering Reaction Engineering, Unit Operations, Process Control. The criterion for the choose of the problems by subject was based in which its resolution has involved, fundamentally, in numeric analysis, control of control structures, toolbox utilization, in this case the Control.
The Octave's utilization presented simple, including in size of the programs engendered and, efficient principally in entrance and exit of data. In this manner, Octave presents like a good tool in resolution of basic problems of chemical engineering.