

# IALP 2011 – Octave TP5

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MI EET 1º ano



## Exercise 1:

- Write a function script file `funxy.m` that receives two values and returns the product of these values.
- Write an Octave program that plots the product of  $x$  and  $y$  in the interval  $[-2..2, -2..2]$ . Use the script you wrote in a)

## Exercise 2:

Write a program that calculates the first ten factorial numbers  $n!$  and puts them in a file called `factorial.txt`.

## Exercise 3:

Write a program that reads the numbers from a file called `factorial.txt` and puts them in an array `n`.

## Exercise 4:

Write a program that reads the file with ice core data and plots it on the screen. The data consists of concentrations of  $\text{CO}_2$  found in ice drilling and independently concentrations of  $^{18}\text{O}$  in other ice core drilling.

The  $\text{CO}_2$  concentration data can be found in

`VOSTOK.TXT`  
`DOEC1.TXT`  
`DOEC2.TXT`  
`DOEC3.TXT`

The temperature data can be found in

`EDC.TXT`

(See the on-line pages of IALP). These are the official data for instance used by Al Gore in his film *Inconvenient Truth*. Do you see a correlation between  $\text{CO}_2$  and temperature? Which one is first? (You can use the command `axis` to zoom in to data).

Note: Start with one file. Manually remove text at beginning of text file. Useful instructions: `fscanf` (p. 123 of GNU Octave manual), `whos`, `a(:, 1)`, `fopen`, `fclose`

