



## MATLAB II

## Exercise for Lecture 4

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This exercise involves the fourth lecture of the minicourse Matlab continuation. The topic is **Parallel computing**.

Once you have solved the problems, please send **published pdf** and your **source code** to *heikki.apiola@aalto.fi*.

The deadline for the return of the exercise is 15.3.2018

Feel free to send email for questions.

(a) Study the m-file: Globalmin.m. Do the “Task-part” with the given function

$$f(x) = x \sin x + x \cos 2x$$

on a slightly larger interval  $[-2, 14]$ .

(b) Study the m-file: minmax2d.m. Function to be minimized:

$$x \exp(-(x^2 + y^2)) + (x^2 + y^2)/20.$$

Change `for` to `parfor`, especially on Triton. Compare timings with “for” and with “parfor”.

(c) Do similar study for “Rosenbrock’s banana-function”:

$$f(x, y) = (a - x)^2 + b(y - x^2)^2,$$

You can take the usual values:  $a = 1, b = 100$

Provide explanations, observations, etc.