OPTIMAL CODDING IN MATLAB APPLIED TO HDSP

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PROGRAM DURATION: 4 hrs, 2 hrs/session, 2 sessions

CONTENT:

1. Documentation, documentation, documentation

   - What to document?
   - How to write coherent and useful comments
   - Methods, properties and variables naming

2. Guess what? Matlab has data types!

   - Matlab data types review
   - Memory cost and performance impact
   - Arrays, matrixes and structures

3. I really don't recall that…

   - Improving memory access speed
   - Improving memory consumption

4. Faster, better, harder, stronger

   - Breaking code into functions
   - Object Oriented Programming approach
   - Multiple Matlab instances vs Matlab workers

5. You might want to save that mate!

   - Reading and writing using mat files
   - Reading and writing using text files

REFERENCES

- http://www.mathworks.com/help/matlab/matlab_prog/strategies-for-efficient-use-of-memory.html
- http://www.mathworks.com/company/newsletters/articles/programming-patterns-maximizing-code-performance-by-optimizing-memory-access.html
- http://www.mathworks.com/help/matlab/data-types_data-types.html
- http://www.tutorialspoint.com/matlab/matlab_data_types.htm
- http://www.mit.edu/~pwb/cssm/GMPP.pdf

- http://www.mathworks.com/company/newsletters/articles/introduction-to-object-oriented-programming-in-matlab.html
- http://www.ee.columbia.edu/~marios/matlab/MatlabStyle1p5.pdf
- http://blogs.mathworks.com/loren/2012/01/13/best-practices-for-programming-matlab/
- http://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.1001745