Optimum Design Spring 2016 Homework # 3

Homework 3 - Guide for Writing Your Memo & Deliverables

Memo

Since this homework assignment will have more results to show, you can extend the length of your memo, up to 4 pages.

Your memo must include three sections:

- 1. Background Describe the problem, tasks and approaches in **your own words**, not equations. And use correct kinds of sentences. Writing in Chinese is OK.
- 2. Results Here you only report your results by numbers, figures, tables, etc. Then report them by **your own words**.
 - a. What is the best design configuration in terms of best MA?
 - b. What is the best design configuration in terms of best average MA?
 - c. Performance indexes (number of iteration needed or cpu time) of the three search methods.
- 3. Discussion & Conclusion This section is where your professional comments should go. Key things to discuss are:
 - a. Compare and discuss the designs you obtained in 2a and 2b.
 - b. Compare the computing efficiency of the three search methods. What's the main factor(s) to cause the differences? What are the advantages and disadvantages of these methods.

Test your search functions

A function m-file, named "search_func_test.m" is provided on the Moodle site for you to test your search functions. To use it simply put it in the same folder where your search function m-file is in and type (using gs_max function as an example):

[xmax, ymax] = gs_max(search_func_test, ub, lb, tolerance, delta)

The other input arguments (ub, lb, tolerance and delta) and the correct solution will be provided in the code.

Deliverables

- 1. Memo (up to 4 pages), named as **<your student id>.doc** or **docx** or **pdf**. The memo must contain the required sections and a list of attached files.
- 2. cutter_ma.m
- 3. cutter_avg_ma.m
- 4. cutter_analysis.m
- 5. ei_max.m
- 6. aei_max.m
- 7. Gs_max.m

Name your files as required.