

Feedback - s161200, s161559 an s134052 (Group number: N3)

- P1 Very non-standard to use \times as the notation for a matrix-vector product.
What is the KKT optimality conditions?
You should NOT use backslash in your solution - which factorization is to be preferred?
State how you (randomly) generate, H, g, A and b .
What do you mean by 'these are added to the solver' - how have you actually computed the sensitivities?
How did you verify your sensitivity calculations?
You need to provide greater details to how the primal- and dual problems are related.
What are the advantages of the two formulations?
- P2 State your different KKT solvers.
It is impossible to extract any information from your timing-chart - do a line-chart next time. How did you compute these timings? Did you run each problem size 10× and sampled the averaged run-time? Fig. 2 is a bit better - but again, a line-chart would be a lot better.
Very good answer to problem 2.
- P3 Explain how you compute the feasible initial point.
Include code-snippets with your implementation!
How did you get the big- M methods to work? Did you use the formulation from the books? Or did you alter it slightly? You need to show some kind of results here!
- P4 In the first part of exercise 4; can you see why you only get efficient portfolio 'above' the minimum variance portfolio? What is the logical reason to why (in your Markowitz formulation) you don't find an 'optimal' portfolio with an expected return of 10%? It is because that portfolios 'below' the minimum variance portfolio aren't efficient - you can find a 'better' portfolio - which at the same level of risk (as the portfolio below the minimum variance portfolio) yields a higher expected return. So in a sense, the first part of exercise 4 is not very realistic in practice ... :-)
- P5 You don't write up an interior-point algorithm.
You don't explain the primal-dual interior-point algorithm.
Your implementation of the primal-dual interior-point algorithm must be wrong - you should get the same result as quadprog.
You haven't answered 5.6.

General feedback: include code-snippets in your report - and answer all the questions in the assignment.