

CASE STUDY: //MINI-PROJECT

THE ECONOMIC ORDER QUANTITY MODEL

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PROBLEM DESCRIPTION

- ✖ Please refer to the enclosed pdf file
 - + (EOQ Model.pdf which is from chapter 2 of the *Factory Physics* book)

SOLVE IT USING SIMULATION

► Questions/Requirements:

- + Build a base simulation model
- + Based on the base model, use OptQuest (Optimization in AnyLogic) to find out the optimal order quantity for the problem. (*Tip: it should be close to the closed-form Q^* on page 51 of the reference*)

SOLVE IT USING SIMULATION (CONT.)

- + What's the long-run average of cost (\$/unit) if the Q is 100? Use Parameter Variation can run 1000 replications and make a plot of the cost.
- + What's the long-run average of cost (\$/unit) if the Q is 200? Use Parameter Variation can run 1000 replications and make a plot of the cost.

TIP/WARNING

- ✖ Do NOT use the closed form solution and “embed” into your simulation model to get the answer!