JOHNS HOPKINS
CAREY BUSINESS SCHOOL

Simulation for Business Applications
BU.610.615
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Spring 2021

Individual Homework Number 4

Due date: Start of our next week class

Reminder 1: Please make sure your MS Word file shows your work. Please submit your homework report in MS Word format named `FirstName-LastName.docx`. Additionally, you need to submit one Excel file. Please name the Excel file `problem-1-HW-4.xlsx`

Reminder 2: Only clearly typed solutions will be accepted & graded. Any hand-written homework submission will not be accepted/graded. Please avoid including screen-shots of Excel tables or graphs. You can easily import tables and graphs from Excel to word.

Late Submission Grading Rule: (0,1] hour delay: 10% deduction of homework grade, (1,2] hours delay: 20% deduction, (2,3] hours delay: 30% deduction, ... (you got the idea)

1. Six months before its annual convention, the American Medical Association (AMA) must determine how many rooms to reserve. At this time AMA can reserve rooms at a cost of $ 150 per room. The AMA believes the number of doctors attending the convention will be normally distributed with a mean of 5000 and a standard deviation of 1000. If the number of people attending the convention exceeds the number of rooms reserved, extra rooms must be reserved at a cost of $250 per room.

   Use `RiskOptimizer` to determine optimal number of rooms that AMA needs to book to minimize the expected cost to the AMA. Use 500 iterations and 1000 trials. Please:

   - Save your file frequently and do not use `risksimtable`.
   - In the `Advanced` tab of `RiskOptimizer`, please turn off the `Multiple CPU` option.
   - Submit all your optimization logs and explain your understanding of optimization logs.