MSF 526
Illinois Institute of Technology
Homework 5
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Question3 observations

Maximum theoretical loss is observed when all the instruments fail. In this case maximum loss is defined by notional and recovery rate for each instrument:

$$\text{Maximum Loss} = \sum \text{Ntl}(i)*(1-R(i)) =$$
$$\$1M * ((1-0.1) + (1-0.3) + (1-0.15)+ (1-0.4) + (1-0.4) + (1-0.4)) = \$4.25M$$

Our model takes in account discount rate and therefore yields $4.17M when all the hazard rates are set to 1 to guarantee defaults.

The net present value of estimated loss with the given parameters was $775K and it was mostly due to instrument # 6 defaulting in most of the scenarios due to hazard rate of 0.9.

The model shows that that Estimated Loss is high with the low values of correlation then it drops and then increases again on approach to 1.