FINC 623/ECON623
Homework Assignment—Monte Carlo Simulation for Correlated Assets
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Maximum team size: 3 persons

	Asset A		Asset B
Price	95.00		120.00
Sigma	0.23		0.32
Option Type	CALL		PUT
Exercise Price	100.00		125.00
Correlation		0.4	

Common terms: Days until expiration = 233; r = 0.06

Assignment:
Consider the data given above and assume that the two options are plain vanilla options. Conduct a Monte Carlo analysis with 50,000 samples to find the terminal prices for both assets. **Be sure to reflect the correlation between the assets**. Based on your sample of 50,000 observations, answer the following questions and submit printed answers in class:

1. What is the probability that the option on Asset A will finish in the money?
2. What is the probability that both options will finish in the money?
3. What is the expected payoff from both options considered together?
4. What is the probability that the total payoff on the two options will be greater than or equal to $20?

Reflection question: Are these probabilities and expected payoffs what each investor would or should expect? You don't need to submit anything, but please think about this. We will discuss this in class.