Problem Set 8
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1. Vasicek Model
    a. Price of Pure Discount Bond by Monte Carlo: **$975.43**
    b. Price of Coupon Paying Bond by Monte Carlo: **$1053.2217**
    c. Price of Euro Call on Pure Discount Bond by Monte Carlo: **$9.94**
    d. Price of Euro Call on Coupon Paying Bond by Monte Carlo: **$80.98**
    e. Price of Euro Call on Coupon Paying Bond by Explicit Method: **$81.74**

    The prices calculated by Monte Carlo Simulation and Explicit Method are quite similar. However, Monte Carlo simulation also introduces variance. If we increase the path, the price would converge to the explicit method, even though it may take more computational time.

2. CIR Model
    a. Price by Monte Carlo: **$0.4241**
    b. Price by Implicit Method: **$0.4564**
    c. Price by Explicit Method: **$0.3941**

    Implicit Method uses regression, explicit method uses complex formulas, while their results are like Monte Carlo. In terms of simplicity, Monte Carlo is the easiest to deploy. Therefore, in CIR model, Monte Carlo seems more reasonable to be used.

3. G2 ++ Model
    a. Price by Monte Carlo: **$1.4175**
    b. Price by Explicit Method: **$1.861**

    It's like the first question. The prices calculated by Monte Carlo Simulation and Explicit Method are quite similar. However, Monte Carlo simulation also introduces variance. If we increase the path, the price will converge to the explicit method, even though it may take more computational time.