1. A four month European call option on a dividend-paying stock is currently selling for $5. The stock price is $64, the strike price is $60 and a dividend of $0.80 is expected in one month. The risk free interest rate is 12% per annum for all maturities. What opportunities are there for an arbitrageur?
2. The price of an American call on a non dividend paying stock is $4. The stock price is $31, the strike price is $30 and the expiration date is in three months. The risk free interest rate is 8%. Derive upper and lower bounds for the price of an American put on the same strike price and expiration date.
3. What is the lower bound for the price of a two month European put option on a non dividend paying stock when the stock price is $58, the strike price is $65 and the risk free interest rate is 5% per annum?
4. What is the lower bound for the price of a six month call option on a non dividend paying stock when the stock price is $80, the strike price is $75 and the risk free interest rate is 10% per annum?