CS 7646 Summer 2016 - Quiz 3

June 23, 2016

Student Name [10 pts] ______________________________

GT ID# ______________________________

1 Market Mechanics [10 pts each]

1. You hold (long) 100 shares of Microsoft stock. The market close price today was $100 / share. Just after market close, MSFT executes a 2:1 stock split. After the split is complete, your position in MSFT is worth:

   (a) $5,000
   (b) $10,000
   (c) $15,000
   (d) $20,000

   A stock split has no effect on market capitalization OR the value of your holdings.
   Prior to the split: ($100 / share) * 100 shares = $10,000
   After the split: ($50 / share) * 200 shares = $10,000
   Answer: (b)

2. You BUY 100 shares (long) of BioDelivery Sciences (BDSI) at $10 / share at time t_0 and immediately place a 10% trailing stop loss order. Given the subsequent price movements below, during which time period T will your stop order trigger to sell the stock? (Assume the stock price only reverses direction at the times shown.)

time	price
t_1	9.50
t_2	11.00
t_3	10.00

   (a) $T \leq t_1$
   (b) $t_1 < T \leq t_2$
   (c) $t_2 < T \leq t_3$
   (d) You are still holding the stock after t_3

   At t0, your STOP is created at $9.
   At t1, your STOP is still $9.
   At t2, your STOP is $9.90 (90% of 11.00).
   At t3, your STOP is still $9.90.
   You have not sold the stock.
   Answer: (d)

3. A hypothetical company with stock symbol AAA closed today at a share price of $100. Three months ago, the company executed a 2:1 stock split. Six months ago, the company executed a 4:1 stock split. You wish to calculate a series of `adjusted close` prices to do some backtesting. If the actual close price twelve months ago was C, what value would you use for the adjusted close?

   (a) C
   (b) $C/2$
   (c) $C/4$
   (d) $C/8$

   Adjusted close for last 3 months = close.
   Adjusted close 3-6 months ago = 1/2 close.
   Adjusted close 6+ months ago = 1/8 close.

   If you bought 100 shares prior to the first split, you would have 800 shares today (*4, then *2).

   So you must divide the price by 8 to "adjust" for those extra shares. Answer: (d)

Use the following order book to answer questions 4, 5, and 6.

BID	PRICE	ASK
	25.10	2000
	25.05	1000
	25.00	500
2500	24.90	
5000	24.85	
2500	24.80	

4. You sell 2500 @ 24.90 and 2500 @ 24.85, so your avg price per share is 24.875.

5. Before: mid(24.90,25.00) = 24.95
After: mid(24.85,25.00) = 24.925

4. You place a market order to SELL 5000 shares that you own. Your order is immediately executed. What average price per share do you receive? ________

5. Using the standard `mid(bid,ask)` method, what is the listed single "price" of the stock prior to your sale? ________ After your sale? ________

6. Given the original order book as shown, what do you expect to happen to the price of this stock over the very short-term future? **(a) The price will rise due to buying pressure.**

   (a) price will rise
   (b) price will fall
   (c) price will remain the same
   (d) an informed guess is not possible with the given information

   Consider: a SELL order of 1500 shares will not affect the price. A BUY order of 1500 shares will raise the price from 24.95 to 25.00.

2 Types of Funds [10 pts each]

7. Which of the following statements is true of a mutual fund, but not a hedge fund?

   (a) An individual investor can put money into a mutual fund. **True of both.**
   (b) Shares of a mutual fund may be bought anytime the market is open. **Not true.**
   (c) A mutual fund must periodically disclose its holdings to the public. **True of mutual fund only.**
   (d) Only accredited investors can buy shares in a mutual fund. **True of hedge fund only.**

   Answer: (c)

Use the following fund information for both of the remaining questions. Assume no new investors bought into the fund this year. `Start of Year AUM: $5M. End of Year AUM: $5.5M.`

8. You manage a mutual fund with an expense ratio of 2%. For the above year's performance, you will be paid:

   (a) $50,000
   (b) $100,000
   (c) $110,000
   (d) $160,000

   $5M AUM at start of year * 0.02 = $100,000 compensation

   Answer: (b)

9. You manage a hedge fund under the typical "two and twenty" incentive. For the above year's performance, you will be paid:

   "Two" is the same expense ratio as above ($100,000)
   "Twenty" is 20% of profit: $500,000 * 0.2 = $100,000

   (a) $100,000
   (b) $110,000
   (c) $200,000
   (d) Nothing, because your fund did not reach the required twenty percent profit for the year.

   $100,000 + $100,000 = $200,000 Answer: (c)