## Homework Assignment – Chapter 13

1. Name two differences between common and preferred stock.
2. Describe the difference between brokers and market-makers. Describe the difference in how they are paid.
3. How does a market order work?
4. What is the difference between a Market if Touched order and a Stop order.
5. What is the difference between a Fill-or-Kill order and an Intermediate or Cancel order.
6. Describe an iceberg order. What purpose does it serve in the market? How else could you execute such an order?
7. Describe an Electronic Communication Network. What advantages do ECNs provide? What might be some of their disadvantages?
8. What is the role of the designated market maker (DMM) on the NYSE?
9. What is a crossing network?
10. What are soft dollars? Why are they open to abuse?
11. What additional costs are involved in shorting a stock? Why does a brokerage firm have to locate a stock to borrow?

## Quantitative Problems – Chapter 13

1. A trader buys 1000 shares of a stock for $100. He pays a broker $1 dollar per share commission. After two weeks the stock has risen to $112 dollars. If the trader sells the shares for $112 again with a $1 commission what is his total return in dollars? In percent?
2. A trader wants to short 1000 shares of a stock at $100. His broker is able to locate the shares for him at a cost of 0.5% (use a daily charge of 0.5% x 1/365). The broker is not going to pay the trader interest on the proceeds from his short. If he sells the stock short at $100 and buys it back 14 days later at $90 and the broker charges a $1 commission per share what is his total return in dollars? In percent?
3. A trader wants to short 1000 shares of a stock at $75. His broker is able to locate the shares for him at a cost of 1.5% (use a daily charge of 0.5% x 1/365). The broker will pay interest to the trader of 0.5% on the proceeds of his short position. If he sells the stock short at $75 and buys it back 28 days later at $90 and the broker charges a $1 commission per share what is his total return in dollars? In percent?
4. On two different ECNs there are separate order books. Identify the arbitrage between the markets.

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| --- | --- | --- | --- |
| Bid Quantity | Bid Price | Offer Price | Offer Quantity |
| 10,000 | 102 | 104 | 15,000 |
| 5,000 | 101 | 105 | 7,000 |
| 2,000 | 100 | 108 | 5,000 |

|  |  |  |  |
| --- | --- | --- | --- |
| Bid Quantity | Bid Price | Offer Price | Offer Quantity |
| 10,000 | 100 | 101 | 15,000 |
| 5,000 | 99 | 102 | 7,000 |
| 2,000 | 98 | 105 | 5,000 |

The following questions all relate to the following order book. Explain what happens to the trader’s order and update the state of the order book. The problems will all be sequential as in each problem will change the state of the order book and you will do the next problem with the state of the order book as the last problem left it. Any unfilled orders may become active in later parts of the problem.

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| --- | --- | --- | --- |
| Bid Quantity | Bid Price | Offer Price | Offer Quantity |
| 10,000 | 100 | 101 | 15,000 |
| 5,000 | 99 | 102 | 7,000 |
| 2,000 | 98 | 105 | 5,000 |

1. A trader places a limit sell order for 12,000 shares at a price of 100.
2. A trader places a limit buy order for 7,000 shares at a price of 100.
3. A trader places a market if touched sell order for 5,000 shares at 102.
4. A trader places a market order to buy 20,000 shares.

The following questions all relate to the following order book. Explain what happens to the trader’s order and update the state of the order book. The problems will be sequential. Each problem may change the state of the order book and you will do the next problem accordingly. Any unfilled orders can become active in later parts of the problem.

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| --- | --- | --- | --- |
| Bid Quantity | Bid Price | Offer Price | Offer Quantity |
| 10,000 | 100 | 101 | 15,000 |
| 5,000 | 99 | 102 | 7,000 |
| 2000 | 98 | 105 | 5,000 |

1. A trader places a fill-or-kill limit sell order for 12,000 shares at a price of 100.
2. A trader places a limit buy order for 7,000 shares at a price of 100.
3. A trader places a stop-order to sell 5,000 shares at a price of 99.
4. A trader places a limit sell order for 12,000 shares at a price of 100.
5. A trader places a market sell order for 6,000 shares.

The following questions all relate to the following order book. Explain what happens to the trader’s order and update the state of the order book. The problems will be sequential. Each problem may change the state of the order book and you will do the next problem accordingly. Any unfilled orders can become active in later parts of the problem.

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| --- | --- | --- | --- |
| Bid Quantity | Bid Price | Offer Price | Offer Quantity |
| 10,000 | 100 | 101 | 15,000 |
| 5,000 | 99 | 102 | 7,000 |
| 2000 | 98 | 105 | 5,000 |

1. A trader places a intermediate-or-cancel limit sell order for 12,000 shares at a price of 100.
2. A trader places a limit buy order for 7,000 shares at a price of 100.
3. A trader places a stop-limit-sell order for 5,000 shares at a price of 99.
4. A trader places a limit sell order for 12,000 shares at a price of 100.
5. A trader places a market sell order for 6,000 shares.