

1a. You have \$5,000 to invest in Dewey, Cheetum & Howe (DCH) but want to maximize your return. The stock price is currently \$25. What is the maximum number of shares you could purchase buying on margin if the initial margin requirement is 50%?  
 $\$5000 \text{ margin} + \$5000 \text{ margin (debit)} = \$10000 \text{ total purchasing power}$   
 (your money - 50%) (50% borrowed) loan (debit balance)

$\$25 \text{ per share} = 400 \text{ shares}$

1b. Construct an account balance statement for the above transaction:

Assets	Liabilities & Account Equity
400 shares @ \$25 per share \$10000	Margin Loan \$5000
	Account Equity 5000
Total: \$10000	Total: \$10000

1c. If the price of DCH falls to \$17, what is your current margin?  
 $\$17 * 400 \text{ shares} = \$6800 - \text{value of security}$   
 $\text{margin} = (\text{value of security} - \text{margin loan}) / \text{value of security}$

$$\frac{6800 - 5000}{6800} = \frac{1800}{6800} = 0.2647 \approx 26.5\%$$

1d. Construct an account balance statement for your account with the price of DCH at \$17:

Assets	Liabilities & Account Equity
400 shares @ \$17 per share \$6800	Margin loan \$5000
	Account Equity 1800
Total: \$6800	Total: \$6800

1e. Assuming the maintenance margin is 25%, will you have a margin call if the price falls to \$17?  
 NO, but we are at 26.5% and we are very close to getting a margin call.

2a. Because DCH has been such a dog, you decide to try shorting the stock. It is currently selling for \$10 per share. If you short 400 shares, what will be the proceeds from the sale of the transaction and how much will you need to deposit? The initial margin requirement is 50%.

$400 \text{ shares} * \$10 \text{ per share} = 4000 \text{ proceeds from short sale}$   
 $\$4000 * 50\% = \$2000 \text{ initial margin deposit}$

2b. Construct an account balance statement for the above transaction:

Assets	Liabilities & Account Equity
Proceeds 400 shares @ \$10 per share \$4000	Short position 400 shares @ \$10 per share \$4000
Initial Margin Deposit \$2000	Account Equity \$2000
Total: \$6000	Total: \$6000

2c. If the price of DCH rises to \$12, what is your current margin?  
 $\text{margin} = (\text{margin deposit} + \text{proceeds from short sale} - \text{value of security}) / \text{value of security}$

$$\frac{2000 + 4000 - 4800}{4800} = \frac{1200}{4800} = 0.25 = 25\%$$

2d. Construct an account balance statement for your account with the price of DCH at \$12:

Assets	Liabilities & Account Equity
Proceeds 400 shares @ \$10 per share \$4000	Short position 400 shares @ \$12 per share \$4800
Initial Margin Deposit \$2000	Account Equity \$1200
Total: \$6000	Total: \$6800

price of stock rises therefore, short position rises  
 2nd Account equity falls

2e. Assuming the maintenance margin is 30%, will you have a margin call if the price rises to \$12?

Yes, you will get a margin call!