This case study includes several problems related to the valuation of Nike. We will work through these problems throughout the course to demonstrate some of the most important steps in a valuation from start to finish. The problems will be assigned individually as a component of your regular homework. However, please note that the solution from one problem may carry over as an important input on subsequent problems. You should therefore consider the case study not as a set of individual problems, but as one larger assignment that will be completed in steps.

To solve the Nike problems, you will make use of Nike’s most recent financial statements as well as the notes to the financial statements. Nike's financial statements from the most recent fiscal year ending May 31, 2014 are included with this document. The notes to the financial statements and full 10K are available on the class web site.

An overview of the individual questions and their relation to the lecture topics is provided below.

- Question 1 – Financial Ratio Analysis (Lecture 1)
- Question 2 – Cost of Capital (Lecture 2)
- Question 3 – Operating Lease Adjustments (Lecture 3)
- Question 4 – Capitalization of Advertising Expenses (Lecture 3)
- Question 5 – Taxes (Lecture 3)
- Question 6 – Estimating Cash Flows (Lecture 3)
- Question 7 – Fundamental Growth in Earnings (Lecture 4)
- Question 8 – Cash Flow Discounting and Stock Price Estimation (Lecture 5)
- Question 9 – Relative Valuation (Lecture 6)
2. **Cost of Capital**
   In this problem, you will calculate the cost of equity and weighted average cost of capital for Nike as of May 31, 2014. Be sure to explain any assumptions you make to arrive at your answers.

   a. Collect monthly return data for both Nike and the S&P 500 Index for the 60-month period ending in May 2014. Using this data, estimate the Beta for Nike based on a market model (CAPM) regression. Using this Beta estimate, calculate the cost of equity ($K_e$) for Nike based on the CAPM model. Note that you must choose an appropriate risk-free rate and market risk premium to use in the CAPM equation. Briefly explain your choice for each of these variables.

   I will assume that the risk-free rate equals the 10-year Treasury Yield as of 5/31/14, or 2.48%. The market model regression using 60-months of returns for Nike and the S&P gives a Beta estimate of 0.889 (see the attached graph).

   I will use a market risk premium of 4.5%. This estimate reflects both the historical equity risk premium relative to U.S. Treasury Bonds and the implied equity premium calculations we discussed in class. Using this information, the cost of equity can be calculated as:

   \[
   K_e = 2.48\% + 0.889(4.5\%) = 6.48\%
   \]

   Note that for the past several years, monetary policy has resulted in Treasury yields that are unusually low. At the same time, the risk premium on equities has been unusually high. While yields have increased recently and the risk premium has probably come down, we could consider starting with a temporarily high market risk premium to be consistent with the unusually low risk-free rate. We would then adjust both numbers toward normalized (e.g., historical average) value over time.

   b. Assume that the value of Nike’s operating lease debt is $2,437 million and the firm’s employee stock options have an after-tax value of $1,789 million. Estimate the market value of debt and the market value of equity for Nike as of May 31, 2014. Use the firm's A+ rating and the default spreads provided in the course notes to estimate the firm's cost of debt ($K_d$). Using these estimates and your answer to (a), calculate the weighted average cost of capital (WACC) for Nike. Assume a marginal tax rate of 24.4%.

   The default spread table provided in the class notes gives a 10-year default spread of 72 basis points for A+ rated corporate bonds. Note that I use the 10-year spread to be consistent with my use of the 10-year Treasury. Combining this with the risk-free rate from (a) gives a cost of debt equal to 3.20% (2.48% + 0.72%).

   According to Nike’s most recent 10K, the book value of total debt for the firm is $1,373 million (167+7+1199). However, in the Notes to the Consolidated Financial Statements, Nike estimates the market value of long-term debt (including current installments) to be $1,154 million. Combining this with the firm's short-term debt (notes payable) valued at $167 million gives a total market value for debt of $1,321 million. Using methods we will discuss in Lecture 3, I find that the debt value of Nike's operating leases equals $2,437 million (details provided in the appendix). Together, this gives a total adjusted market value of debt equal to $3,758 million.

   Nike's shares outstanding include 178 million class A shares and 692 million class B shares. Treating these shares as identical and multiplying by the stock price as of May 31, 2014 ($76.91) gives a total equity market value of $66,912 million. To this, we must add the after-tax value of employee stock options (which will be discussed in more detail in Lecture 5), or $1,789 million.
This gives an adjusted market value of equity equal to $68,701 million. Note that in addition to stock options, Nike has awarded some restricted stock shares to employees. These shares are already accounted for in shares outstanding and do not need to be valued separately. Finally, note that Nike has a small amount (about $300,000) of preferred stock that is owned by a company called Sojitz America. If this were an important component of the firm’s capital structure, we could add a third term to the WACC formula reflecting the weight in preferred stock times the cost of preferred stock (the preferred stock yield). Since this component is very small for Nike, I will ignore it in my WACC calculation.

Ignoring the adjustments for operating lease debt and employee stock options, the weighted average cost of capital (WACC) is calculated as:

\[
WACC = \left( \frac{66.912}{66.912 + 1.321} \right) 6.48\% + \left( \frac{1.321}{66.912 + 1.321} \right)(3.20\%)(1 - .244) = 6.40\%
\]

After incorporating operating lease debt and employee stock options, the weighted average cost of capital (WACC) is calculated as:

\[
WACC = \left( \frac{68.701}{68.701 + 3.758} \right) 6.48\% + \left( \frac{3.758}{68.701 + 3.758} \right)(3.20\%)(1 - .244) = 6.27\%
\]

Again, note that these values would change if we choose to normalize the market risk premium, the risk-free rate, or both.

See the Appendix for additional details related to this solution.
Question 2:

Regression Output:

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.0085</td>
<td>0.0080</td>
<td>1.0593</td>
<td>0.2939</td>
<td>-0.0075</td>
</tr>
<tr>
<td>X Variable</td>
<td>0.8885</td>
<td>0.1967</td>
<td>4.5172</td>
<td>0.0000</td>
<td>0.4948</td>
</tr>
</tbody>
</table>

$y = 0.8885x + 0.0085$

$R^2 = 0.2603$
NOTE 8 — Long-Term Debt

Long-term debt, net of unamortized premiums and discounts and swap fair value adjustments, comprises the following:

<table>
<thead>
<tr>
<th>Scheduled Maturity (Dollars and Yen in millions)</th>
<th>Original Principal</th>
<th>Interest Rate</th>
<th>Interest Payments</th>
<th>Book Value Outstanding As of May 31,</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Bond Payables:</td>
<td></td>
<td></td>
<td></td>
<td>2014</td>
</tr>
<tr>
<td>October 15, 2015</td>
<td>$ 50</td>
<td>4.70%</td>
<td>Semi-Annually</td>
<td>$</td>
</tr>
<tr>
<td>October 15, 2015 (in)</td>
<td>$ 100</td>
<td>5.15%</td>
<td>Semi-Annually</td>
<td>$ 108</td>
</tr>
<tr>
<td>May 1, 2023</td>
<td>$ 500</td>
<td>2.25%</td>
<td>Semi-Annually</td>
<td>$ 490</td>
</tr>
<tr>
<td>May 1, 2043</td>
<td>$ 500</td>
<td>3.63%</td>
<td>Semi-Annually</td>
<td>$ 499</td>
</tr>
<tr>
<td>Promissory Notes:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>April 1, 2017</td>
<td>$ 40</td>
<td>6.20%</td>
<td>Monthly</td>
<td>33</td>
</tr>
<tr>
<td>January 1, 2018</td>
<td>$ 19</td>
<td>6.79%</td>
<td>Monthly</td>
<td>19</td>
</tr>
<tr>
<td>Japanese Yen Notes:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>August 20, 2001 through November 20, 2020</td>
<td>¥ 6,000</td>
<td>2.60%</td>
<td>Quarterly</td>
<td>29</td>
</tr>
<tr>
<td>August 20, 2001 through November 20, 2020</td>
<td>¥ 4,000</td>
<td>2.00%</td>
<td>Quarterly</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>$ 1,190</td>
<td></td>
<td></td>
<td>1,267</td>
</tr>
</tbody>
</table>

The scheduled maturity of Long-term debt in each of the years ending May 31, 2015 through 2019 are $7 million, $106 million, $45 million, $25 million and $7 million, respectively, at face value.

NOTE 10 — Redeemable Preferred Stock

Soleilz America is the sole owner of the Company’s authorized Redeemable preferred stock, 1% par value, which is redeemable at the option of Soleilz America or the Company at par value aggregate of $0.3 million. A cumulative dividend of $0.10 per share is payable annually on May 31. No dividends may be declared or paid on the common stock of the Company unless dividends on the Redeemable preferred stock have been declared and paid in full. There have been no changes in the Redeemable preferred stock in the three years ended May 31, 2014, 2013, and 2012. As holder of the Redeemable preferred stock, Soleilz America does not have general voting rights but does have the right to vote as a separate class on the sale of all or substantially all of the assets of the Company and its subsidiaries, on merger, consolidation, liquidation or dissolution of the Company or on the sale or assignment of the Nike trademark for athletic footwear sold in the United States. The Redeemable preferred stock has been fully issued to Soleilz America and is not blank check preferred stock. The Company’s articles of incorporation do not permit the issuance of additional preferred stock.

The fair value of the Company’s Long-term debt, including the current portion, was approximately $1,154 million at May 31, 2014 and $1,219 million at May 31, 2013. The fair value of Long-term debt is estimated based upon quoted prices of similar instruments (level 2).