Problem 1. Business Strategy Analysis

(i)   Salesforce delivers its enterprise cloud computing solutions using multi-tenant technology architecture. Briefly describe the multi-tenancy architectural approach. **[3 points]**

Multi-tenancy is an architectural approach that operates a single application instance for multiple organizations, treating all customers as separate tenants who run in virtual isolation from each other. Customers can use and customize an application as though they each have a separate instance, yet their data and customizations remain secure and insulated from the activities of all other tenants. [see p. 6 of 10-K]

(ii)   List <u>one</u> key success factor and <u>one</u> significant risk associated with Salesforce's use of multi-tenant technology architecture. **[4 points]**

1. Key success factor

   ▪ Efficiently spreads the cost of delivering services across user base.

   ▪ Do not have to manage thousands of distinct applications with their own business logic and database schemas, so can scale business faster than traditional software vendors.

   ▪ Can focus resources on building new functionality to deliver to customer base as a whole rather than on maintaining an infrastructure to support each of their distinct applications. [see p. 6 of 10-K]

2. Significant risk

   ▪ Customer loses control over data security

   ▪ Customer loses control over integrity of hardware and operations

   ▪ More difficult to customize service based on individual customer preferences

Problem 2. Accounting Analysis

(i)   <u>Summarize</u> the accounting policy used by Salesforce for commission payments to their direct sales force. **[3 points]**

The commissions are deferred and amortized to sales expense over the non-cancelable terms of the related subscription contracts with customers, which are typically 12 to 36 months.

(ii)   Assume that instead of using its current accounting policies for deferring the recognition of <u>both</u> revenues and commissions on subscription contracts, Salesforce instead recognized all non-cancelable future billings and any associated commission costs <u>at the inception of the associated subscription contract</u>. <u>Estimate</u> the <u>Income (loss) from operations</u> that Salesforce would have reported for the fiscal year ended January 31, 2016. **[8 points]**

Restated Income (loss) from operations = Reported income (loss) from operations + Increase in Unbilled Deferred Revenue + Increase in (Billed) Deferred Revenue − Increase in Deferred Commissions

Using BS Approach:

114,923 + (7,100,000 - 5,700,000) + (4,267,667 + 23,886 − 3,286,768 - 34,681) − (259,187 + 189,943 - 225,386 − 162,796) = 2,424,079

OR

Using SoCF Approach:

114,923 + (7,100,000 - 5,700,000) + 969,686 − (380,022 − 319,074) = 2,423,661

(iii)   Assume that instead of using its current accounting policy for 'marketing and sales' costs, Salesforce instead capitalized these costs in the fiscal year the costs are incurred and then amortized the costs on a straight-line basis over the subsequent two fiscal years. <u>Estimate</u> the <u>Income (Loss) from operations</u> that Salesforce would have reported for fiscal year ended January 31, 2016. **[5 points]**

Restated Income (loss) from operations = Reported income (loss) from operations + FY16 R&D - ½ FY15 R&D – ½ FY14 R&D

= 114,923 + 3,239,824 – ½ 2,757,096 – ½ 2,168,132 = 892,133

(iv)   Which of the above two accounting methods for marketing and sales costs do you think better reflects the underlying economics of the expenditures? <u>Briefly</u> explain your answer. **[3 points]**

Capitalizing and amortizing over 2 years, because the marketing and sales costs help to generate subscription contracts that typically have terms of at least a year and have high renewal rates.

<u>Do not write below this point.</u>

Problem 3. Financial Analysis

(i)   Compute the net operating asset (NOA) turnover ratios for Salesforce and Oracle for their most recent fiscal year. **[6 points]**

NOA Turnover for Salesforce =

Sales/(Average NOA) = Sales/(Average Debt + Average Equity) =
6,667,216/((1,095,059+1,070,692+198,888+300,000+15,402+125,289+196,711+701,612
+550,292+5,002,869+3,975,183)/2) = 1.01

(note: 1.15 if exclude debt in other liabilities, as listed in Note 6, from NFO)

NOA Turnover for Oracle =

Sales/(Average NOA) = Sales/(Average Debt + Average Equity) =
37,047/((3,750+1,999+40,105+39,959+47,790+49,098)/2) = 0.41

(ii)   Summarize the primary reason(s) for the difference between the NOA turnover ratios that you computed above? **[4 points]**

Oracle has a relatively larger balance of cash and marketable securities that slows its turns.

Oracle has a relatively larger balance of goodwill that slows its turns.

Salesforce has a relatively larger balance of deferred revenue that increases its turns.

(iii)   <u>Estimate</u> the average number of days that elapsed between the receipt of cash from customers and the recognition of the associated revenue for Salesforce and Oracle during the most recent fiscal year. Be sure to specify whether cash is received before or after revenue is recognized in each case. **[6 points]**

Average number of days for Salesforce =
365*(Average Deferred Revenues – Average Receivables)/Sales=
365*1/2*(4,267,667+3,286,768+23,886+34,681-2,496,165-1,905,506)/6,667,216 = 87.9
On average, Salesforce receives cash 87.9 days before revenue is recognized.

Average number of days for Oracle =

Average number of days for Salesforce =
365*(Average Deferred Revenues – Average Receivables)/Sales=
365*1/2*(7,655+7,245-5,385-5,618)/37,047 = 19.2 days
On average, Oracle receives cash 19.2 days before revenue is recognized.

(iv)   Briefly identify the primary reason(s) for the difference between the average number of days for Salesforce and Oracle that you computed in the question above. **[4 points]**

Salesforce receives cash earlier because its business is based almost exclusively on subscription sales that are invoiced up front and then have revenue deferred over the subscription term. Oracle, in contrast, sells more traditional software and hardware on which much of the revenue is recognized at the time of sale.

Problem 4. Forecasting

(i)   The Wedbush research report forecasts that Salesforce's 'Adjusted operating margin' will grow from 12.4% in <u>FY16</u> to 15.1% in <u>FY18</u> (see Figure 9 of the report). Identify the key drivers of the improved margin. **[4 points]**

Mostly driven by a reduction in Marketing and Sales from 44.3% of sales to 41.1% of sales

Also driven by a reduction in General and Administrative from 9.6% of sales to 9.2% of sales

Partially offset by a small reduction in gross margin (0.8% of sales)

(ii)   The Wedbush research report forecasts that Salesforce's balance of 'Deferred commissions' included in current assets will grow from 259.2 at the end of FY16 to 263.6 at the end of FY18 (see Figure 11 of the report). Briefly evaluate the plausibility of this forecasting assumption. **[4 points]**

This is a growth rate of 1.7%. Over the same period, subscription sales are forecast to grow over 50%. Since commissions are closely tied to subscription sales, the growth rate in deferred commissions seems far too low.

(iii)   The Wedbush research report forecasts that Salesforce's 'Cash flow from Operating Activities' will be 2,331.8 for FY18 (see Figure 12 of the report). What does the research report forecast that Salesforce will do with most of this cash? **[3 points]**

Most of it will be simply added to the balance of cash and equivalents, while 586 will be used for capex.

Problem 5. Valuation Analysis

In this problem, we will value Salesforce using the residual income valuation model and the financial forecasts in the Wedbush report. Use a discount rate (cost of equity) of 9%.

(i)   Compute Salesforce's residual income for FY17 and FY18. **[6 points]**

FY17 Residual Income:

$= 257.1 - 0.09*5,002.9 = -193.2$

FY18 Residual Income:

$= 190.5 - 0.09*6,807.5 = -422.2$

(ii)   Use the residual income valuation model to value Salesforce's common equity per share at the end of FY16 by using your answers from part (i) above and Salesforce's book value of common equity at the end of FY16. Assume that residual income is zero for all years beyond FY18. Use 671 million shares in your computation. **[6 points]**

$(5,002.9 - 193.2/1.09 - 422.2/(1.09)^2)/671 = 6.66$

(iii)   The DCF model in the Wedbush research report generates a value of $96/share. Identify <u>two</u> major differences in the forecasting assumptions underlying the above residual income valuation versus the Wedbush DCF valuation that contribute to the different values. **[6 points]**

1.   The Wedbush model forecasts huge growth in sales and net income through 2025.

2.   The Wedbush model forecasts even greater growth in FCF through 2025. This must implicitly assume increasing asset turnover

3. The Wedbush model uses a terminal period FCF that is growing much more rapidly than sales and net income . This is implausible and implicitly assumes that there will be perpetual improvements in asset turnover

4. The Wedbush model doesn't explicitly account for the cost of stock-based compensation that will be paid in the future, instead discounting FCF on a per-share basis. But the growth rate in shares slows from 4% to 2%. This implicitly assumes that the firm will rely less on stock-based compensation, which makes the growth in FCF all the more optimistic.

This is the end of the exam.