**CHAPTER 1 LABS – KEY**

**(Level 1 Header) Lab 1-0 How to complete labs in this book**

Instructor information: This lab is very simple, and exists to help students familiarize themselves with the format of labs and with how to take a screenshot and paste it into a Word Document. This key contains only the screenshots that will be similar to what a student may come up with while completing this lab.

**Part 1: Create a new Word document on OneDrive**

No Key

**Part 2: Take a screenshot of your document**

Key screenshot:

****

**Part 3: Add another screenshot and submit your document**

Key screenshot:

****

**End of Lab**

**(Level 1 Header) Lab 1-1 Data Analytics in Financial Accounting**

Because every question in this lab is open-ended, there is no key provided.

Example solution:

Part 1: Has [Company X’s] gross margin increased in the last three years?

Part 2:

1. Apple Inc.’s gross margin has increased slightly in the past three years.
2. Company Name = EntitySectorIndustryClassificationPrimary
Gross Margin = GrossProfit
Sales Revenues = SalesRevenueNet
Cost of Goods Sold = CostOfGoodsAndServicesSold
Year = DocumentPeriodEndDate

Part 3:

****

**Example Solutions**

|  |  |  |  |
| --- | --- | --- | --- |
| **Part 1: Questions** | **Part 2: Hypothesized Answer** | **Part 2:****Tables/Fields/Tags** | **Other data:** |
| **Has [Company X's] current ratio increased over the past four years?**  | Target's current ratio has increased slightly over the past five years | Company Name=EntitySectorIndustryClassificationPrimaryCurrent Assets=AssetsCurrentCurrent Liabilities=LiabilitiesCurrentYear=DocumentPeriodEndDate | None |
| **What was [Company X's] rate of increase/decrease of gross profit this past year?** | Target's gross profit increased by 3% this past year | Company Name=EntitySectorIndustryClassificationPrimaryNet Income=NetIncomeLossTotal Assets=AssetsYear=DocumentPeriodEndDate | None |
| **Has [Company X's] debt-to-equity ratio decreased over the past four years?** | Target's debt-to-equity ratio has increased over the past 5 years | Company Name=EntitySectorIndustryClassificationPrimaryTotal Liabilities=LiabilitiesStockholder's Equity=StockholdersEquityYear=DocumentPeriodEndDate | None |



**While these labs should remain open-ended in the textbook, we can guide students a bit in Connect:**

**Possible Connect Exercises:**

**Part 1 (Given): How has Apple Inc.’s gross margin changed in the past three years?**

**Part 2:**

1. **Select an appropriate hypothesized answer to the question above from the list:**
2. **[Correct] Apple Inc.’s gross margin increased by 3% in the past three years.**
3. **Apple Inc.’s revenues declined in the past three years.**
4. **Apple Inc.’s net income as a percentage of sales remained constant in the past three years.**
5. **Apple Inc.’s new product has had a positive impact on sales.**
6. **(If possible, an interesting Connect activity would be to show the original question with drop-down lists and have students select the variables)**

**e.g. How has [Apple Inc.’s | Company Name] [gross margin | (Sales – Cost of Goods Sold)/Sales ] [changed | Y2/Y1] in the past three [years | Year]?**

**Distracters:**

 **Company Name**

 **Sales Revenue**

 **Cost of Goods Sold**

 **Sales - Cost of Goods Sold**

 **(Sales - Cost of Goods Sold)/Sales**

 **Year**

 **Industry**

 **Y2/Y1**

 **%**

**Match data elements from the previous question to XBRL tags that would provide data to answer the question from Part 1. If the data element requires a calculation, choose “Expression”**

**Company Name = EntitySectorIndustryClassificationPrimary**

**Gross Margin = Expression**

**Sales Revenues = SalesRevenueNet**

**Cost of Goods Sold = CostOfGoodsAndServicesSold**

**Change = Expression**

**Year = DocumentPeriodEndDate**

 **Distracters:**

**Expression**

**GrossProfit**

 **EntitySectorIndustryClassificationPrimary**

**SalesRevenueNet**

**CostOfGoodsAndServicesSold**

**DocumentPeriodEndDate**

**ProfitLoss**

**Part 3: (Currently a live Google Sheet. We could possibly simulate in Connect as a spreadsheet with Apple data. In this case, a student would enter a tag from the previous step and in the background a VLOOKUP could return the data value. Thoughts?)**

 **(Level 1 Header) Lab 1-2 Data Analytics in Managerial Accounting**

Because every question in this lab is open-ended, there is no key provided.

Example solution:

Part 1:

2. Where does the customer live?

3. Hypothesis: risky customers likely live in coastal towns.

4. City, state, zip code

Part 2:

1. Zip\_code, addr\_state

Example Solutions

|  |  |  |  |
| --- | --- | --- | --- |
| **Part 1: Questions** | **Part 2: Hypothesized Answer** | **Part 2:****Tables/Fields/Tags** | **Other data:** |
| **Does the customer have many credit accounts?** |  Risky customers likely have many credit accounts | 1.customer’s member number (member\_id)2.The number of credit accounts a customer has (total\_acc)3.The customer’s total available credit (revol\_bal) |  |
| **How long is the employment time of the customer?**  |  People with short employment time are potential risky customers  | 1.customer’s member number (member\_id)2.The length of the employment time (emp\_length)3. the total time of full-time work experience | Total employment length |
| **How long will the customer pay back the loan?** | Risky customers are likely to have longer time for payment.  | 1.customer’s member number (member\_id)2.The time length customers promised to pay back the loan | Loan term |

**While these labs should remain open-ended in the textbook, we can guide students a bit in Connect:**

**Possible Connect Exercises:**

**Part 1 (Given): Do customers with late payments live in the same areas?**

**Part 2:**

1. **Select an appropriate hypothesized answer to the question above from the list:**
2. **[Correct] Customers with late payments are evenly geographically distributed.**
3. **Customers with late payments have high credit utilization.**
4. **Customers in some states have more payment plans than others.**
5. **Some areas have customers with a longer employment history.**
6. **(If possible, an interesting Connect activity would be to show the original question with drop-down lists and have students select the variables)**

**e.g. Do [customers | Name] with [late payments | Number of late payments] live in the same [areas | State]?**

**Distracters:**

 **Name**

 **State**

 **Number of late payments**

 **Employment length**

 **Debt-to-income ratio**

 **Payment plan**

 **Credit utilization**

 **Application type**

 **Loan date**

**Match data elements from the previous question to available fields provided by Lending Club that would provide data to answer the question from Part 1. If the data element requires a calculation, choose “Expression”**

**Name or ID = member\_id**

**Number of late payments = delinq\_2y**

**State = addr\_state**

 **Distracters:**

**member\_id**

**delinq\_2y**

**addr\_state**

 **dti**

**revol\_util**

**purpose**

**emp\_length**

**open\_acc**

**(Level 1 Header) Lab 1-3 Data Analytics in Auditing**

Because every question in this lab is open-ended, there is no key provided.

Example solution:

Part 1:

1. Are any shipping managers approving shipments more than two days after they are received?
2. Hypothesis: Only 1 or 2 shipping managers are approving shipments more than two days after they are received.
3. Approver ID, order date, approval date

Part 2:

1. Shipments\_Made\_YYYYMMDD\_YYYYMMDD table and Approved\_By, Entered\_Date, and Approved\_Date fields

Example Solutions

|  |  |  |  |
| --- | --- | --- | --- |
| **Part 1: Questions** | **Part 2: Hypothesized Answer** | **Part 2:****Tables/Fields/Tags** | **Other data:** |
| **How long will it take from receiving sales orders to shipments made?** | Good internal control should take 1-3 days from receiving sales orders to shipments made | 1.Sales orders date2.Shipments date3.Sales orders id 4.Shipments idSales\_Orders\_YYYYMMDD\_YYYYMMDDSales\_Order\_IDSales\_Order\_DateShipments\_Made\_YYYYMMDD\_YYYYMMDDShipment\_IDShipment\_Date | None |
| **What is the percentage of errors to total shipments?** | Good internal control should have error percentage under 1% | 1.the total number of errors concerning shipments for a quarter2.the total number of shipments for a quarter3.The shipment idShipments\_Made\_YYYYMMDD\_YYYYMMDDShipment\_IDShipment\_Period | None |
| **How long will it take from sending sales invoice to opening accounts receivable** |  Good internal control should finish the process within one day | 1.the date of sending sales invoice2.invoice id3.the date of opening accounts receivable4.the customer membership id5.the transaction date6.the balance amountInvoices\_Generated\_YYYYMMDD\_YYYYMMDDInvoice\_IDInvoice\_DateOpen\_Accounts\_Receivable\_YYYYMMDDCustomer\_Account\_IDTransaction\_DateBalance\_Amount | None |

**While these labs should remain open-ended in the textbook, we can guide students a bit in Connect:**

**Possible Connect Exercises:**

**Part 1 (Given): Are any shipping managers approving shipments more than two days after the orders are received?**

**Part 2:**

1. **Select an appropriate hypothesized answer to the question above from the list:**
2. **[Correct] Customers with late payments are evenly geographically distributed.**
3. **Customers with late payments have high credit utilization.**
4. **Customers in some states have more payment plans than others.**
5. **Some areas have customers with a longer employment history.**
6. **(If possible, an interesting Connect activity would be to show the original question with drop-down lists and have students select the variables)**

**e.g. Are any [shipping managers | Manager ID] [approving shipments | approve date] [more than two days | Approve date – enter date ] after the [orders are entered | entered date]?**

**Distracters:**

 **Manager ID**

 **Approve date**

 **Enter date**

 **Approve date – enter date**

 **(more distracters)**

**Match data elements from the previous question to available fields provided by Lending Club that would provide data to answer the question from Part 1. If the data element requires a calculation, choose “Expression”**

**Manager ID = Approved\_By**

**Approve date = Approved\_Date**

**Enter date = Entered\_Date**

**Number of days = expression**

 **Distracters:**

**Expression**

**Entered\_Date**

**Approved\_Date**

 **Approved\_By**

**(more distracters)**

**(Level 1 Header) Lab 1-4 Comprehensive Case: Dillard’s Store Data**

Because every question in this lab is open-ended, there is no key provided.