## MIS 303 Spring 2022

## Excel Assignment – Instructions

In this assignment, you are to follow the instructions to complete and submit the assignment as individuals. Please make sure you follow the instructions closely and complete all tasks on multiple worksheets.

1. Download the file **Excel Assignment.xlsx** from Blackboard to your computer.
2. Rename the file as ***YourFirstName*-*YourLastName*.xlsx**. You should fill your own first and last names to replace the parts of ***YourFirstName*** and ***YourLastName*** in the file name. E.g., John-Smith.xlsx
3. Open the file using Excel 2016. Rename the worksheets as suggested below. In the following instructions, each worksheet will be referred with the new name only.

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| Sheet1 🡪 | **2016 Orders** |
| Sheet2 🡪 | **Income Statements** |
| Sheet3 🡪 | **Pivot Tables** |
| Sheet4 🡪 | **Business Charts** |
| Sheet5 🡪 | **Goal Seek** |
| Sheet6 🡪 | **Solver Analysis** |

1. On the sheet of **2016 Orders**, complete the following tasks.
   1. Make of list on the entire dataset.
   2. Sort the dataset by **Product** first and then by **Region**. (Other idea: By **Salesperson** first and then by **Month**)
   3. Add a column at the right of **Product**. Name it **Price**. Use vLookup function to pull product prices from the sheet **Income Statements** (D4:D7) and show prices for all orders.
   4. Add a column at the right of **Unit**. Name it **Total**. The order totals = **Price** \* **Unit**.
   5. At the right of **Total**, add a column called **Discount**. Use a nested If function to decide the discounts. The company gives 10% discount to all orders from the West region, and the other regions only enjoy 10% discount in December.
   6. At the right of **Discount**, add a column called **Totalw/Dis**. It is the order totals – discounts.
   7. In cell L2, use the AVERAGE function to calculate the average number of units sold from the column **Unit**. Next, use conditional formatting tool and highlight the orders with unit sold greater than average unit sold. Select the green fill and dark green text color option if the cells meet this rule.
2. On the sheet of **Income Statements**, complete all the green-colored cells using Excel functions or formulae.

* **Revenue** is **Units Sold** \* **Unit Price** and **COGS** is **Units Sold** \* **Unit Cost**.
* **Total Revenue** is the sum of the revenues for all products.
* **Total COGS** is the sum of the **COGS** for all products.
* **Gross Profit** = **Total Revenue** – **Total COGS**
* **Salaries** is 12% of **Total Revenue**
* **Advertising** is 4% of **Total Revenue**
* **Miscellaneous** expenses are 1% of **Total Revenue**
* **Total Operating Expense** = **Salaries** + **Advertising** + **Miscellaneous**
* **Earning Before Taxes** = **Gross Profit** – **Total Operating Expense**
* Calculate **Taxes** based on tax rate of 25% of **Earning Before Taxes**
* **Net Profit** = **Earnings Before Taxes** – **Taxes**

1. On the sheet of **Pivot Tables**, create a pivot table. You should start with the sheet of **2016 Orders** as it contains all your raw data. But when you choose the location to place your pivot table, make sure you choose an existing sheet – the sheet of **Pivot Tables**, and click on the cell A1 to place the pivot table separately. Here are some suggested ideas for pivot tables.

* Product sales by Salespersons
* Seasonal sales by Regions

Requirements

- Add meaningful title for your pivot table

- Use proper grouping fields and summary fields.

- Use proper structure of the pivot table to ensure readability

- Use proper type and format for summarized values

- Add a short paragraph below or on the side of the pivot table and describe 3 major findings from this table.

1. On the sheet of **Business Charts**, create two charts using the summary data provided. Suggested ideas are:

- Salesperson performance

- Monthly sales

- Regional sales, etc.

Requirements

- Use proper chart type based on your data and purposes.

- Add meaningful chart title

- Use proper labels and/or legend to ensure readability

- Add a short paragraph below the charts and describe your major findings from each chart.

1. On the sheet of **Goal Seek**, find the way to achieve your 2017 profit goals.
   1. Go back to **Income Statement** sheet. It must be completed by now. Copy the gray area (A3:G23). Go to the sheet of **Goal Seek**, and paste it at the cell A3.
   2. At the blank Rows 1 & 2, merge some cells and add a title ***2017 Sales Estimates***.
   3. The cell J3 should show a label **Price Increasing Rate:**, and J4 should show **5%**. If they are not there because of your copying and pasting, please add them to your sheet at proper locations.
   4. Edit your data sheet and include 5% increase on Unit Price of all products. Make sure you use formula with reference to J4, where it shows the increasing rate of prices.
   5. Use the Goal Seek tool and see if we want to achieve a $125,000 net profit, what is the increasing rate of price we should apply in 2017?
2. Scenario Analysis: Go back to the sheet of **Income Statement**. Use the scenario manager to create three scenarios stated below and create a scenario summary, which will be a separate worksheet.
   1. You will create 3 different scenarios by changing the product pricing mix in order to determine their impacts to Net Profit.

* The First Scenario is to raise the price of Product B by $5.00. However, this would cause sales of Product B to fall by 800 units and sales of Product C to increase by 700 units. Title the scenario name as ***Product B Price Change***
* The Second Scenario is to raise the price of Product C by $4.00. However, this would cause sales of Product C to fall by 550 units and sales of Product B to increase by 400 units. Title the scenario name as ***Product C Price Change***
* The Third Scenario is to raise the price of both Product B and Product C by $6.00. This would cause sales for Products B and C to both decrease by 350 units each. Title the scenario name as ***Product B and C Price Changes***
  1. Create a Scenario summary report, which will become a new and separate worksheet. Make sure the Results Cells include **Earnings Before Taxes** and **Net Profit**. Rename this worksheet as **Scenario Analysis**, and move the sheet to the right of the sheet of **Goal Seek**.
  2. Write up a brief conclusion on your scenario analysis result in the sheet of **Scenario Analysis**, below the summary report. Which scenario will bring the company the optimum outcome of 2017 sales?

1. Solver:
   1. Go back to **Income Statement** sheet. It must be completed by now. Copy the gray area (A3:G23). Go to the sheet of **Solver Analysis**, and paste it at the cell A3.
   2. At the blank Rows 1 & 2, merge some cells and add a title **2017 Income Statement Projections**
   3. Change the label **Unit Sold** (at the cell C3) to **Units to Sell.**
   4. Within the Solver Analysis worksheet, input the following Solver Parameters:

* Objective cell: Net Profit (C22) to the value of $80,000.
* Constraint 1: Product A must sell at least 6000 units
* Constraint 2: Total Operating Expenses is less than or equal $215,000.
* Constraint 3: All unit sold quantities (C4:C7) are integers.
  1. Write up a brief conclusion on the major findings from the solver analysis.