

Unit 4 IP Data Analytics Instructions

Audit Objectives are Occurrence and Completeness

To find duplicate invoice numbers, follow these steps:

1. To identify duplicate invoice numbers, select the Invoice column by clicking on the top of the column.
2. Go to Conditional Formatting in the Home tab under "Styles".
3. Select "Highlight Cells Rules", and then select "Duplicate Values".
4. Then, click "OK". This highlights any duplicate values within the column.

To see all of the highlighted cells together, sort based on cell color. Then, follow these steps:

1. Highlight the entire dataset by navigating to the top left cell in the dataset (A1).
2. Then, hold CTRL and Shift down together.
3. Hit the right arrow key, followed by the down arrow key.
4. Then, go to the Data tab, and select "Filter". The filter arrows should appear at the top of each column.
5. Go to the Invoices column, and select the filter arrow at the top of the column.
6. Select "Filter by Color" so that only the highlighted cells will appear. To unfilter the data, you can click on the Filter option within the Data tab again.

These duplicates may arise from corrections to original invoices, as described in the Sales System Description tab in the JA Tires Excel workbook.

To identify gaps in the invoice sequence, follow these steps:

1. First, sort the data by invoice number, from smallest to largest.
2. Create a new column for a "gap" variable. In the gap column, compute the difference between the second and first invoice number (should equal 1).
3. Then, copy the formula down the entire column.
4. Highlight and filter the entire dataset. In the gaps column, filter on the value, and identify any gap larger than 1. Note that the duplicates have a gap of 0.

To see all of the highlighted cells together, sort based on cell color. Then, follow these steps:

1. Highlight the entire dataset by navigating to the top left cell in the dataset (A1).
2. Then, hold CTRL and Shift down together.
3. Hit the right arrow key, followed by the down arrow key.

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4. Then, go to the Data tab, and select "Filter". The filter arrows should appear at the top of each column.
5. Go to the Invoices column, and select the filter arrow at the top of the column.
6. Select "Filter by Color so that only the highlighted cells will appear. To unfilter the data, you can click on the Filter option within the Data tab again.

Audit Objective is Completeness

Repeat the steps used above to identify duplicate invoice numbers.

To search for bills of lading without an associated invoice, follow these steps:

1. Navigate to the Bill of Lading worksheet.
2. Add a new column labeled "invoice," and use a VLOOKUP function to find the Invoice number for the matching Bill of Lading number in the Invoice file.
3. Copy the Bill of Lading column in the Invoice worksheet to the first column of that worksheet (so that Bill of Lading is to the left of Invoice).
4. In the Bill of Lading worksheet column labeled "invoice," enter `=VLOOKUP(A2,Invoice!$A$2:$L$4013,2,FALSE)`, assuming Invoice is in the second column of the Invoice worksheet.
5. Then, sort the invoice column of the Bill of Lading worksheet to identify any missing items.

Audit Objective is Timing

To compare the shipping date to the invoice date, follow these steps:

1. Add a new column to the Invoice worksheet labeled "days."
2. Subtract the Shipment date in Column B from the Invoice date in Column C, and copy the formula down the entire days column. Make sure that the column for the difference is formatted as a number.
3. Filter the days column to identify any observations where "days" is 5 or greater.

Audit Objective is Occurrence

To search for customers not included on the Customer List, follow these steps:

1. Add a new column to the Invoice worksheet labeled "customer."
2. Use VLOOKUP to identify customer names in the Customer List worksheet based on the customer number in the Invoice worksheet, as follows: `=VLOOKUP(E2,'Customer List'!$A$2:$M$18,2,FALSE)`.

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3. Then, filter the customer column to identify any #N/A values.

Audit Objective is Accuracy

Before performing the three-way match, the Bill of Lading worksheet needs to be modified for VLOOKUPs by inserting a new first column and copying the Sales Order Number into this column (so that Sales Order Number is to the left of Quantity and Product Number).

To perform a three-way match, first, the Product Number and Quantity from the Bill of Lading and Sales Order files need to be incorporated into the Invoice file. The Sales Order Number is present in all three documents and can be used to bring the Product Number and Quantity from the other two datasets into the Invoice file.

For example, to bring in the Product Number from the Sales Order file into the Invoice file, insert the following into a new column M:

`=VLOOKUP(K2,'Sales Order'!$A$1:$O$4007,4,FALSE)`

Once the Product Number and Quantity from the Sales Order and Bill of Lading files are included in the Invoice file, they can be compared to those included in the Invoice file.

For example, to compare, the quantity brought in from the Sales Order file (assuming this was added to column M of the Invoice file) to the quantity in the Invoice file, use the following formula:

`=If(M2=G2, "Match", "No Match")`

Audit Objective is Accuracy

In a new column labeled "Difference," compute Price $\times$ Quantity and subtract Amount to check for differences. Filter the difference column data to determine whether any of the differences are nonzero values.