## Lab Objectives

- Introduce how pivots tables are used to summarize, analyze, explore and present data.
- Create pivot tables.
- Customize and format the pivot tables.
- Filter and sort the pivot tables.
- Create calculated fields and pivot charts.
- Grouping, Slicing and Timelines.

## Part 1

- The main data (in the "sales" sheet) are presented in a big data file, and it is hard to get proper analysis from huge data.

- Create **a pivot table**
  1. Select the data range from which you want to make the pivot table.
  2. To insert a new pivot table into your spreadsheet, go to Insert ribbon and click pivot table icon and select pivot table option.
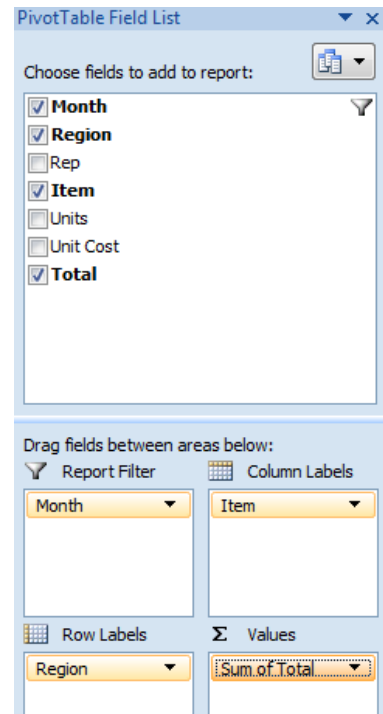  3. Select new worksheet as the target sheet where you want to place the pivot table.
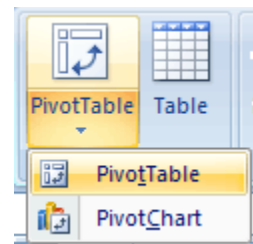
- Format the table to show the following:
  1. Show the grand total for each region across all the Items
     - By dragging the *"Region"* field to the row labels area
     - By dragging the *"Item"* field to the column labels area

  2. Show sum of Total for each Item depending on the region.
     - By dragging the "Total" field to the values area

  3. To change the function used to summarize the data; click on the field dragged in the values area "Total*"*, and choose value field settings then choose sum. You can also find the same settings by right click on the pivot table.
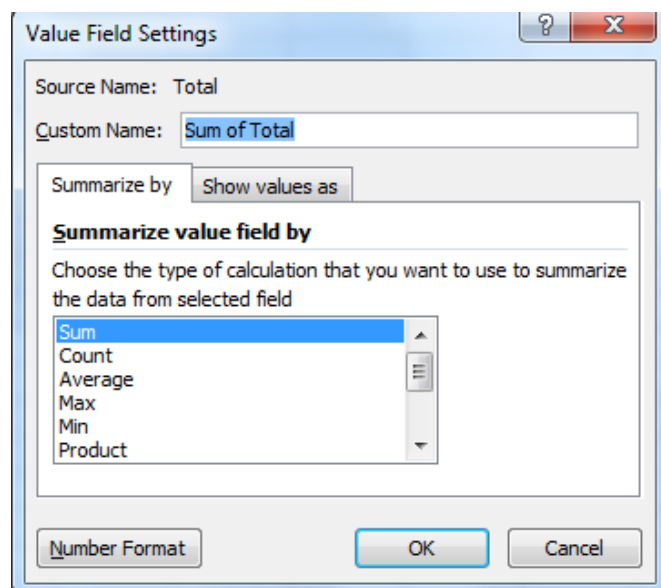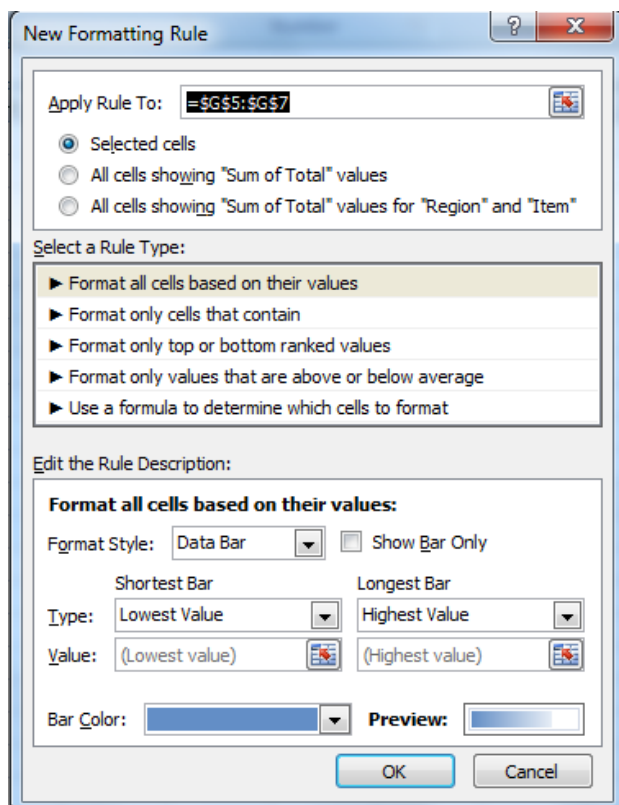
4. Explore how to change the grand total appearance (Design bar then grand total)

5. Filter the data in the report by month.
   - By dragging the "Month" field to the report filter area (select 1 march)

**PivotTable Field List**

Choose fields to add to report:

- ☑ **Month**
- ☑ **Region**
- ☐ Rep
- ☑ **Item**
- ☐ Units
- ☐ Unit Cost
- ☑ **Total**

Drag fields between areas below:

| ▼ Report Filter | ▦ Column Labels |
|---|---|
| Month ▼ | Item ▼ |

| ▦ Row Labels | Σ Values |
|---|---|
| Region ▼ | Sum of Total ▼ |

## Part 2 (Formatting)

- Change the cells **format** to currency with zero decimal places.
- Use Blue bars for the grand total of each region.
- Show only the bars using new formatting rule
- Explain in details why the sum of "Total" where the region is *"East"* and the Item is *"Pen"* is $875 (**_Hint:_** Double click on the cell for drill down)

**New Formatting Rule**

Apply Rule To: `=$G$5:$G$7`

- ⦿ Selected cells
- ○ All cells showing "Sum of Total" values
- ○ All cells showing "Sum of Total" values for "Region" and "Item"

Select a Rule Type:

- ▶ Format all cells based on their values
- ▶ Format only cells that contain
- ▶ Format only top or bottom ranked values
- ▶ Format only values that are above or below average
- ▶ Use a formula to determine which cells to format

Edit the Rule Description:

**Format all cells based on their values:**

Format Style: Data Bar ▼   ☐ Show Bar Only

| | Shortest Bar | Longest Bar |
|---|---|---|
| Type: | Lowest Value ▼ | Highest Value ▼ |
| Value: | (Lowest value) | (Highest value) |

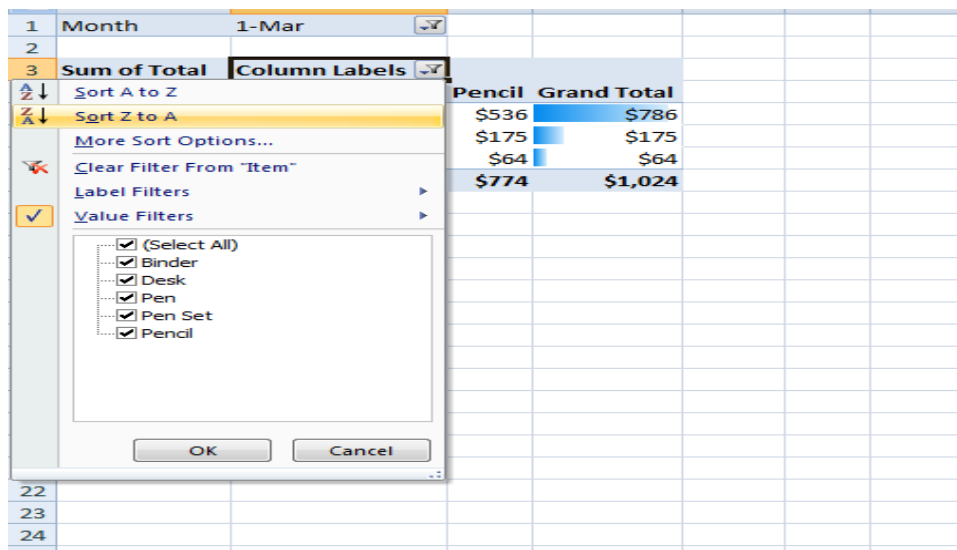Bar Color: [____] ▼   **Preview:** [____]

OK    Cancel

## Part 3 (Sort & Filter)

- **Filter** the data in the table to only show Items where the Total Values is Less than $875
    - You can do the previous step by right click on the table and then filter values.
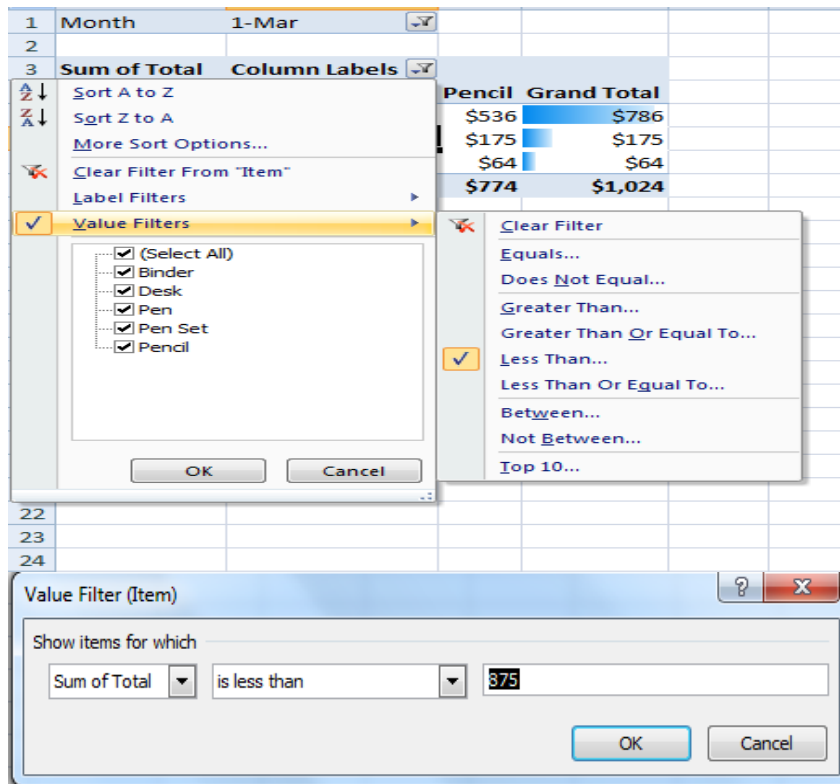


- **Sort** Items in descending order (***Hint:*** Same as previous step, and choose sort Z to A)

## Part 4 (Calculated Field)

- Show the bonus earned for each rep which is 5% of total sold items
    1. Create a new pivot table, name the sheet "bonus"
    2. Drag the "Rep" field to the Row Labels area
    3. Drag "Total" field to the Values area
    4. In the analyze tab select **fields items and sets**
        - Calculated field
        - Change the name to bonus
        - In the formula (=0.05*total)
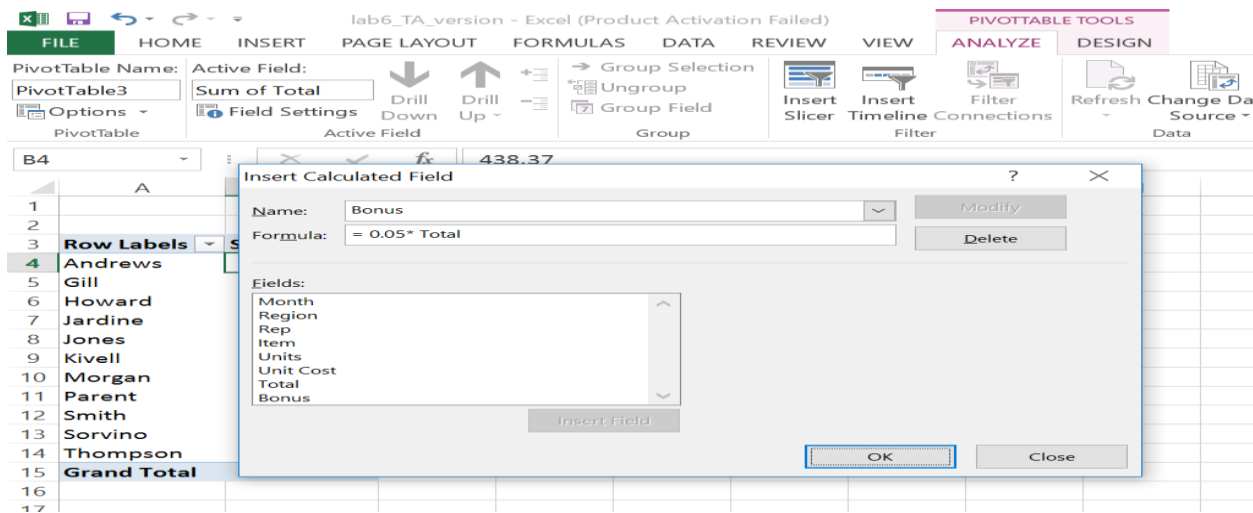


## Part 5 (Pivot Charts)

- Show the max units sold for each item grouped by their Rep (sales Person)
    1. Create a new **pivot Chart**, name the sheet "Chart"
    2. Drag the "Rep" field to the Row Labels area
    3. Drag the "Items" field to the Row Labels area
    4. Finally Drag "Units" field to the Values area

        ***Hint:*** To change the function used to summarize the data; click on the field dragged in the values area "Units", and choose value field settings then choose Max.

## Part 6 (Grouping)

- Create a pivot table that **groups** the data by quarters showing the number of units sold from each item.
    1. Create a new pivot table, name the sheet "Grouping"
    2. Drag the "Month" field to the row labels area.
    3. Drag the "Item" field to the column labels area.

4. Drag "Units" field to the Values area.
5. Click on any cell of the row labels (1-Apr, for example), then right click and choose "Group".
6. Choose which type of grouping you want. In our example let it by quarters.
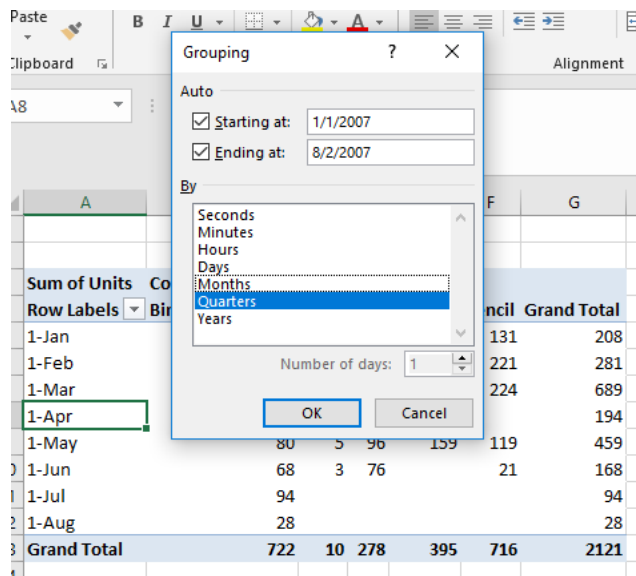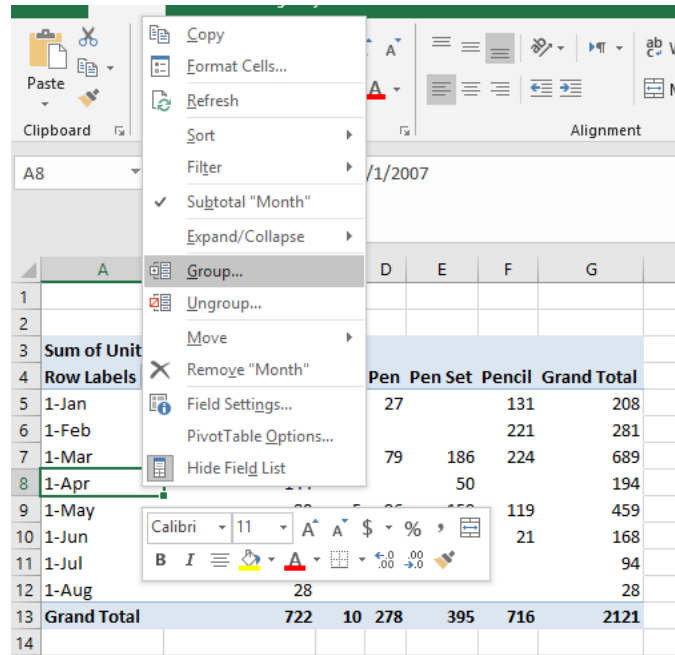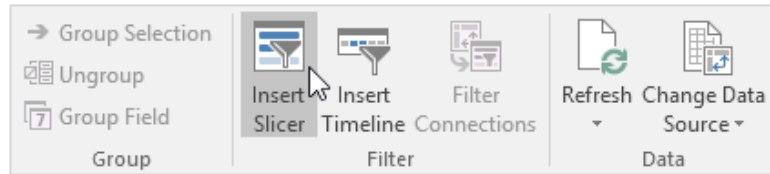




## Part 7 (Slicers)

- You can insert **slicers** in Excel to quickly and easily filter pivot tables. However, using the report filter gives the exact same result (It's recommended when you are making a presentation or using dashboards).
- Show the number of items sold by each representative for each region.
    1. Create a new pivot table, name the sheet "Slicer".
    2. Drag the "Rep" field to the row labels area.
    3. Drag the "Item" field to the column labels area.
    4. Drag the "Units" field to the value area.
    5. Drag the "Region" field to the filter area.

6. Using slicer:
  - Click any cell inside the pivot table.
  - On the Analyze tab, in the Filter group, click Insert Slicer.



  - Check Category (Region) and click OK.



  - Click the region you want to show. (You can click multiple region by pressing ctrl and click)

## Part 8 (Timeline)

- You can insert slicers in Excel to quickly and easily select time periods to filter pivot tables (It's recommended when you are making a presentation or using dashboards).
- Show the number of units sold in the West region in the second quarter. (Using slicers and **timeline**)
    1. Create a new pivot table, name the sheet "Timeline".
    2. Drag the "Item" field to the row labels area.
    3. Drag the "Units" field to the value area.
    4. Using Timeline:
        - Click any cell inside the pivot table.
        - On the Analyze tab, in the Filter group, click Insert Timeline.
        - The field that includes time will only appear. (Month in our example)
        - Change Month from the top right corner to Quarter.
        - Select the second quarter.
        - From the slicer, select West.

| Row Labels | Sum of Units |
|---|---|
| Binder | 64 |
| Desk | 3 |
| Pen | 76 |
| Grand Total | 143 |

**Region**

- Central
- East
- **West**

**Month**

Q2 2007

QUARTERS ▾

2007

Q1  Q2  Q3  Q4