

Sheth L.U.J College of Arts & Sir M.V. College of Science and Commerce

Data Science

PRACTICAL NO. 1

Aim: Introduction to Excel -

- Perform conditional formatting on a dataset using various criteria.
- Create a pivot table to analyze and summarize data.
- Use VLOOKUP function to retrieve information from a different worksheet or table.
- Perform what-if analysis using Goal Seek to determine input values for desired output.

Steps:

- Select the "Width" column (Column G).

The screenshot shows a Microsoft Excel spreadsheet titled 'Fish.csv'. The 'Width' column (Column G) is selected, indicated by a blue border around the cells. The ribbon is visible at the top with the 'Home' tab selected. The data consists of 27 rows of fish measurements, with the first row serving as the header. The 'Width' column contains numerical values such as 4.02, 4.3056, 4.6961, etc.

- Go to the "Home" tab on the ribbon.

- Click on "Conditional Formatting" in the toolbar.

The screenshot shows the same Excel spreadsheet with the 'Conditional Formatting' dropdown menu open. The 'Highlight Cells Rules' option is currently selected, with its sub-options like 'Top/Bottom Rules', 'Data Bars', 'Color Scales', and 'Icon Sets' visible. The rest of the ribbon and the data table remain the same as in the previous screenshot.

Sheth L.U.J College of Arts & Sir M.V. College of Science and Commerce

Data Science

PRACTICAL NO. 1

4. Choose Highlight Cells Rules and then Greater Than

5. Enter the threshold value as 800.

The screenshot shows a Microsoft Excel spreadsheet titled "Fish.csv". The data table has columns: Species, Weight, Length1, Length2, Length3, Height, and Width. The "Width" column is selected. A "Greater Than" dialog box is open, prompting for a threshold value of "800" and a format of "Light Red Fill with Dark Red Text". The dialog box includes "OK" and "Cancel" buttons. The status bar at the bottom right shows "Average: 4.665486395", "Count: 148", and "Sum: 685.8265".

6. Customize the formatting options (e.g., choose a fill color).

7. Click "OK" to apply the rule.

The screenshot shows the same Microsoft Excel spreadsheet after applying the "Greater Than" rule. The "Width" column now has all values greater than 800 highlighted with a light red fill and dark red text. The status bar at the bottom right shows "Average: 4.665486395", "Count: 148", and "Sum: 685.8265".

PRACTICAL NO. 1

Create a pivot table to analyze and summarize data.

Following are the steps to create a pivot table to analyze total sales by category.

Steps:

1. Select the entire dataset including headers.

Species	Weight	Length1	Length2	Length3	Height	Width
Bream	242	23.2	25.4	30	11.52	4.02
Bream	290	24	26.3	31.2	12.48	4.3056
Bream	340	23.9	26.5	31.1	12.3778	4.6961
Bream	363	26.3	29	33.5	12.73	4.4555
Bream	430	26.5	29	34	12.444	5.134
Bream	450	26.8	29.7	34.7	13.6024	4.9274
Bream	500	26.8	29.7	34.5	14.1795	5.2785
Bream	390	27.6	30	35	12.67	4.69
Bream	450	27.6	30	35.1	14.0049	4.8438
Bream	500	28.5	30.7	36.2	14.2266	4.9594
Bream	475	28.4	31	36.2	14.2628	5.1042
Bream	500	28.7	31	36.4	14.3714	4.8146
Bream	500	29.1	31.5	36.4	13.7592	4.368
Bream	340	29.5	32	37.3	13.9129	5.0728
Bream	600	29.4	32	37.2	14.9544	5.1708
Bream	600	29.4	32	37.2	15.438	5.58
Bream	700	30.4	33	38.4	14.8604	5.2854
Bream	700	30.4	33	38.5	14.938	5.1975
Bream	610	30.9	33.5	38.6	15.633	5.1338
Bream	650	31	33.5	38.7	14.4738	5.7276
Bream	575	31.3	34	39.5	15.1285	5.5695
Bream	685	31.4	34	39.2	15.9936	5.3704
Bream	620	31.5	34.5	39.7	15.5227	5.2801
Bream	680	31.8	35	40.6	15.4686	6.1306
Bream	700	31.9	35	40.5	16.2405	5.589
Bream	725	31.8	35	40.9	16.36	6.0532

2. Go to the Insert tab on the ribbon.

3. Click on PivotTable

Species	Weight	Length1	Length2	Length3	Height	Width
Bream	242	23.2	25.4	30	11.52	4.02
Bream	290	24	26.3	31.2	12.48	4.3056
Bream	340	23.9	26.5	31.1	12.3778	4.6961
Bream	363	26.3	29	33.5	12.73	4.4555
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Bream	700	31.9	35	40.5	16.2405	5.589
Bream	725	31.8	35	40.9	16.36	6.0532

4. Choose where you want to place the PivotTable (e.g., new worksheet).

Sheth L.U.J College of Arts & Sir M.V. College of Science and Commerce

Data Science

PRACTICAL NO. 1

The screenshot shows a Microsoft Excel window with a table of fish data. A 'Create PivotChart' dialog box is open, prompting the user to select a table or range (A1:G16) and choose where to place the chart (Existing Worksheet). The 'OK' button is visible at the bottom of the dialog.

5. Drag “Height” to the Rows area.

6. Drag “Weight” to the Values area, choosing the sum function.

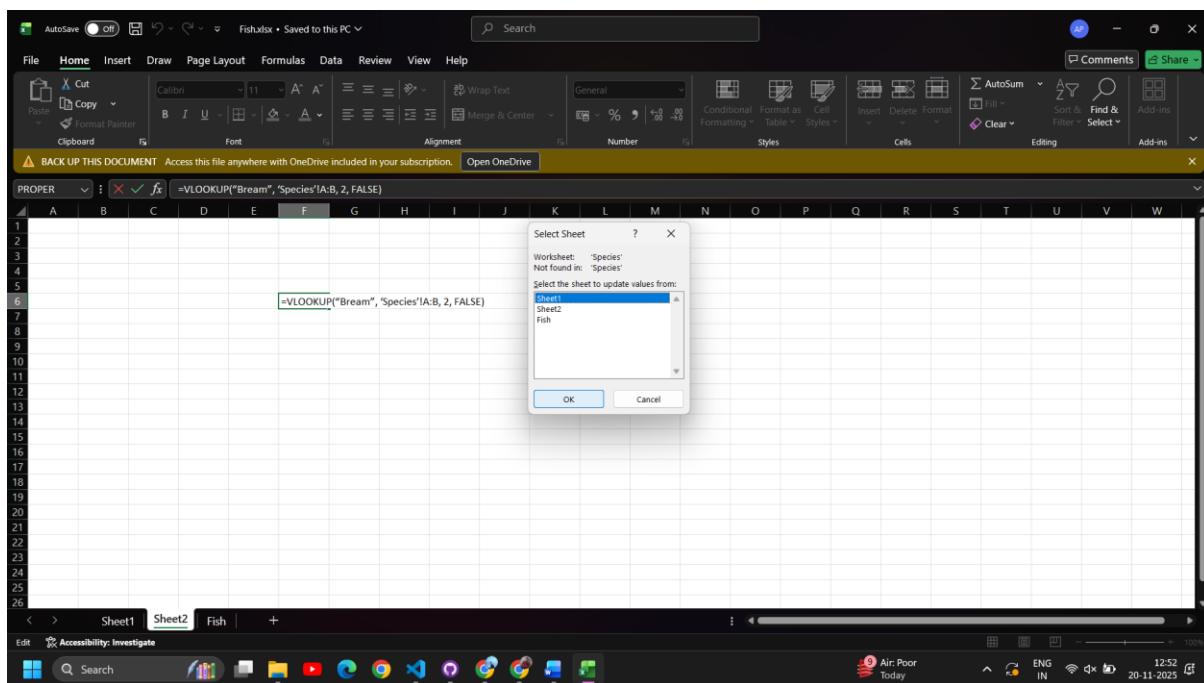
The screenshot shows a Microsoft Excel worksheet with a bar chart titled 'Sum of Weight' and 'Sum of Height'. The chart displays the total weight and height of the fish. The 'PivotChart Fields' pane on the right lists various fields, with 'Height' being the active field. The chart area shows a blue bar for 'Sum of Weight' and an orange bar for 'Sum of Height'.

Use VLOOKUP function to retrieve information from a different worksheet or table.

Use the VLOOKUP function to retrieve the category of “Product M” from a separate worksheet named “Product Table” using following steps:

=VLOOKUP(“Bream”, ‘Species’!A:B, 2, FALSE)

PRACTICAL NO. 1

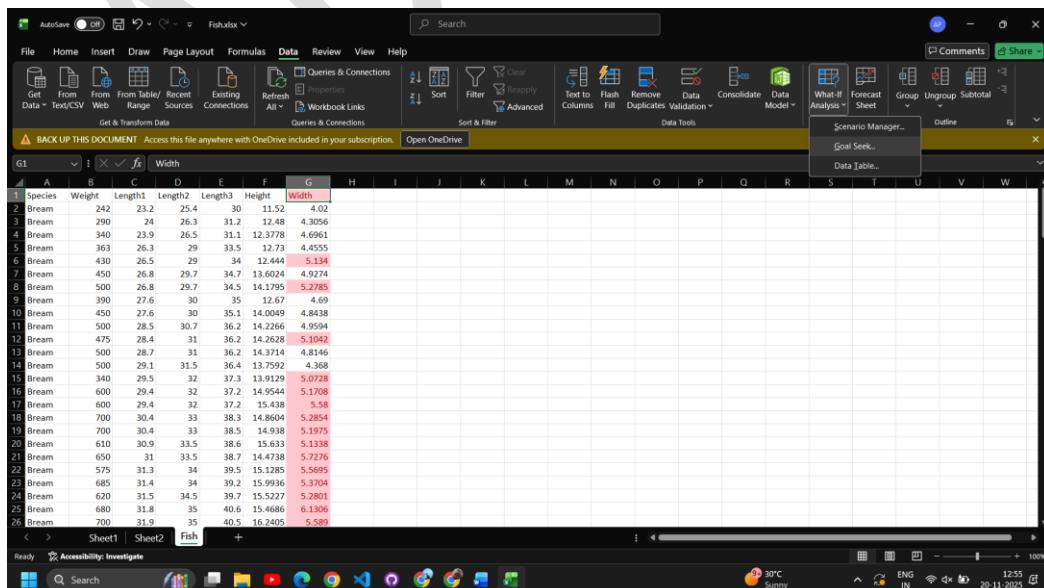


Perform what-if analysis using Goal Seek to determine input values for desired output.

Use Goal Seek to find the required sales for "Weight" to achieve a profit of 1000 using the following steps.

Steps:

1. Identify the cell containing the formula for "Width" for "Weight" (let's assume it's in cell E7).
2. Go to the "Data" tab on the ribbon.
3. Click on "What-If Analysis" and select "Goal Seek."



Sheth L.U.J College of Arts & Sir M.V. College of Science and Commerce

Data Science

PRACTICAL NO. 1

- Set "Set cell" to the width cell (G7), "To value" to 1000, and "By changing cell" to the Weight (B7).

The screenshot shows an Excel spreadsheet titled 'Fish.xlsx'. The data table includes columns for Species, Weight, Length1, Length2, Length3, Height, and Width. A 'Goal Seek' dialog box is open, with 'Sgt cell' set to G7, 'To value' set to 4, and 'By changing cell' set to \$B\$7. The background shows the rest of the spreadsheet and the Windows taskbar.

Species	Weight	Length1	Length2	Length3	Height	Width
Bream	242	23.2	25.4	30	11.52	4.02
Bream	290	24	26.3	31.2	12.48	4.3056
Bream	340	23.9	26.5	31.1	12.3778	4.6961
Bream	363	26.3	29	33.5	12.73	4.4555
Bream	430	26.5	29	34	12.444	5.134
Bream	450	26.8	29.7	34.7	13.6024	4.9274
Bream	500	26.8	29.7	34.5	14.1795	5.2785
Bream	390	27.6	30	35	12.67	4.69
Bream	450	27.6	30	35.1	14.0049	4.8438
Bream	500	28.5	30.7	36.2	14.2266	4.9594
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Bream	500	28.7	31	36.2	14.3714	4.8146
Bream	500	29.1	31.5	36.4	13.7592	4.368
Bream	340	29.5	32	37.3	13.9129	5.0728
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Bream	700	30.4	33	38.5	14.938	5.1975
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Bream	575	31.3	34	39.5	15.1285	5.5695
Bream	685	31.4	34	39.2	15.9936	5.3704
Bream	620	31.5	34.5	39.7	15.5227	5.2801
Bream	680	31.8	35	40.6	15.4686	6.1306
Bream	700	31.9	35	40.5	16.2405	5.589

Click "OK" to let Excel determine the required sales.

The screenshot shows an Excel spreadsheet with the formula =SUM(C2,D2) in cell H2. A 'Goal Seek Status' dialog box is open, stating 'Goal Seeking with Cell H2 found a solution.' The target value is 5, and the current value is also 5. The background shows the rest of the spreadsheet and the Windows taskbar.

Species	Weight	Length1	Length2	Length3	Height	Width	Add
Bream	242	-20.4	25.4	30	11.52	4.02	5
Bream	290	24	26.3	31.2	12.48	4.3056	50.3
Bream	340	23.9	26.5	31.1	12.3778	4.6961	50.4
Bream	363	26.3	29	33.5	12.73	4.4555	55.3
Bream	430	26.5	29	34	12.444	5.134	55.5
Bream	450	26.8	29.7	34.7	13.6024	4.9274	56.5
Bream	500	26.8	29.7	34.5	14.1795	5.2785	56.5
Bream	390	27.6	30	35	12.67	4.69	57.6
Bream	450	27.6	30	35.1	14.0049	4.8438	57.6
Bream	500	28.5	30.7	36.2	14.2266	4.9594	59.2
Bream	475	28.4	31	36.2	14.2628	5.1042	59.4
Bream	500	28.7	31	36.2	14.3714	4.8146	59.7
Bream	500	29.1	31.5	36.4	13.7592	4.368	60.6
Bream	340	29.5	32	37.3	13.9129	5.0728	61.5
Bream	600	29.4	32	37.2	14.9544	5.1708	61.4
Bream	600	29.4	32	37.2	15.438	5.58	61.4
Bream	700	30.4	33	38.3	14.8604	5.2854	63.4
Bream	700	30.4	33	38.5	14.938	5.1975	63.4
Bream	610	30.9	33.5	38.6	15.633	5.1338	64.4
Bream	650	31	33.5	38.7	14.4738	5.7276	64.5
Bream	575	31.3	34	39.5	15.1285	5.5695	65.3
Bream	685	31.4	34	39.2	15.9936	5.3704	65.4
Bream	620	31.5	34.5	39.7	15.5227	5.2801	66
Bream	680	31.8	35	40.6	15.4686	6.1306	66.8
Bream	700	31.9	35	40.5	16.2405	5.589	66.9