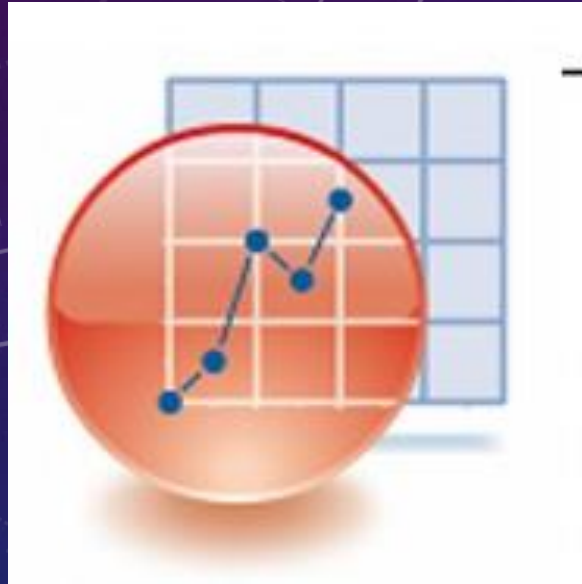




Prism

Graph pad prism



Origin

Data analysis and Graphical software

اعداد: د. روى غسان ، م. هدى عادل ، م. زينب يعقوب

Prism File Sheet Undo Clipboard Analysis Change Import Draw Write Text Export Print Send Cloud LA Help

Analyze Analyze 123 7.29 txt xml

Text

Export Print Send Cloud LA Help

GraphPad Prism

Search...

▼ Data Tables »

- Data 1
- Data 2
- Data 3**
- + New Data Table...

▼ Info »

- Project info 1
- + New Info...

▼ Results »

- Ordinary one-way ANOVA of D...
- + New Analysis...

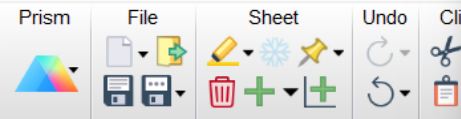
▼ Graphs »

- Data 1
- Data 2
- Data 3**

	Group A	Group B	Group C	Group D	Group E	Group F	Group G	Group H	Group I	Group J	Group K	Group L
	Title	Title	Title	Title	Title	Title	Title	Title	Title	Title	Title	Title
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												

Navigation icons: Home, Back, Forward, Find, Print, Info, Data 3, Link

Row 16, Column D



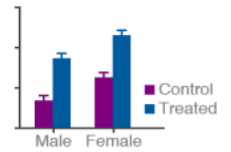
Search...

- Data Tables
 - Data 1
 - Data 2
 - XY: Entering replicate data**
 - New Data Table...
- Info
 - Project info 1
 - New Info...
- Results
 - Ordinary one-way ANOVA of D...
 - Normality and Lognormality Tes...
 - Unpaired t test of Data 3
 - New Analysis...
- Graphs
 - Data 1
- Family
 - XY: Entering replicate data**
 - XY: Entering replicate data

- CREATE
- XY
- Column
- Grouped
- Contingency
- Survival
- Parts of whole
- Multiple variables
- Nested
- OPEN
- Clone a Graph

Grouped tables have two grouping variables, one defined by columns and the other defined by rows

Table format	A			B		
	Control			Treated		
Grouped	A:Y1	A:Y2	A:Y3	B:Y1	B:Y2	B:Y3
1 Male						
2 Female						



[Learn more](#)

Data table:

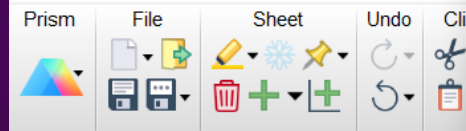
- Enter or import data into a new table
- Start with sample data to follow a tutorial

Select a tutorial data set:

- Error bars in grouped tables**
 - Entering replicate data
 - Entering mean (or median) and error values
- Two-way ANOVA**
 - Ordinary - two data sets
 - Ordinary - three data sets
 - Repeated measures - matched values stacked
 - Repeated measures - matched values in same row
- Three-way ANOVA**
 - Three-way ANOVA 2 x 2 x 2
 - Three-way ANOVA 2 x 2 x K
- Special uses of grouped tables**
 - Multiple t tests
 - Heat map

Cancel

Create



Search...

Data Tables

- Data 1
- Data 2
- XY: Entering replicate data**
- New Data Table...

Info

- Project info 1
- New Info...

Results

- Ordinary one-way ANOVA of D...
- Normality and Lognormality Tes...
- Unpaired t test of Data 3
- New Analysis...

Graphs

- Data 1

Family

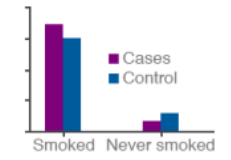
- XY: Entering replicate data**
- XY: Entering replicate data

- CREATE**
- XY
- Column
- Grouped
- Contingency
- Survival
- Parts of whole
- Multiple variables
- Nested

- OPEN**
- Clone a Graph

Contingency tables: Each row defines a treatment or exposure, each column defines an outcome, and each value is an exact count of objects or events

Table format		A	B
Contingency		Cases	Control
		Y	Y
1	Smoked		
2	Never smoked		



[Learn more](#)

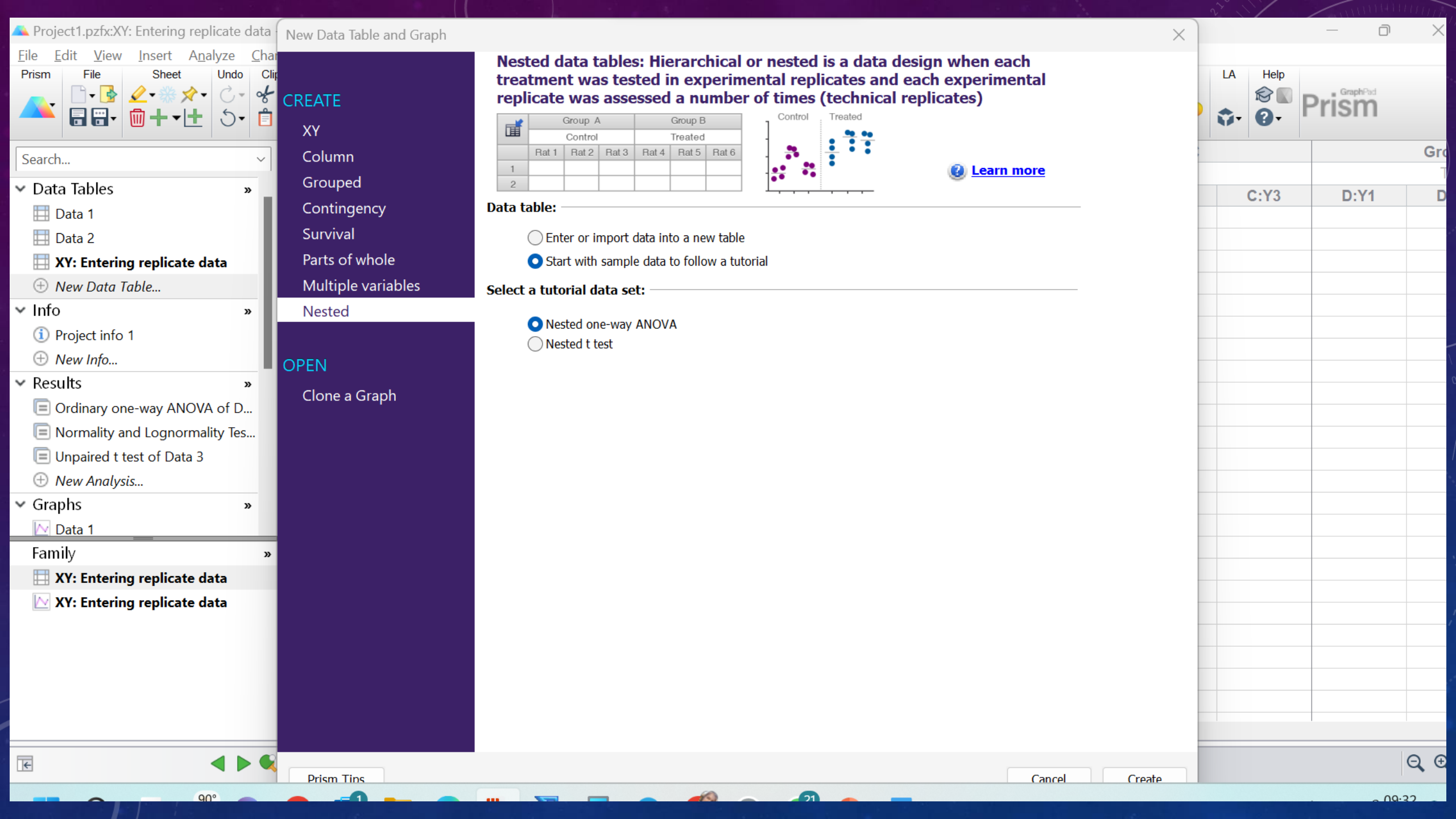
Data table:

- Enter or import data into a new table
- Start with sample data to follow a tutorial

Select a tutorial data set:

- Chi-square test of prospective data (aspirin and MI)
- Fishers exact test of retrospective data (smoking and cancer)
- Sensitivity and specificity (HIV)
- Chi-square test for trend

C:Y3 D:Y1



Data Tables

- Data 1
- Data 2
- XY: Entering replicate data**
- New Data Table...

Info

- Project info 1
- New Info...

Results

- Ordinary one-way ANOVA of D...
- Normality and Lognormality Tes...
- Unpaired t test of Data 3
- New Analysis...

Graphs

- Data 1

Family

- XY: Entering replicate data**
- XY: Entering replicate data

CREATE

- XY
- Column
- Grouped
- Contingency
- Survival
- Parts of whole
- Multiple variables

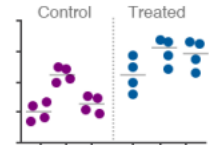
Nested

OPEN

- Clone a Graph

Nested data tables: Hierarchical or nested is a data design when each treatment was tested in experimental replicates and each experimental replicate was assessed a number of times (technical replicates)

	Group A			Group B		
	Control			Treated		
	Rat 1	Rat 2	Rat 3	Rat 4	Rat 5	Rat 6
1						
2						



[Learn more](#)

Data table:

- Enter or import data into a new table
- Start with sample data to follow a tutorial

Select a tutorial data set:

- Nested one-way ANOVA
- Nested t test

Cancel

Create

Applaction

AB - Excel | huda1981711@outlook.com

File Home Insert Page Layout Formulas Data Review View Help Tell me what you want to do

Clipboard Font Alignment Number Styles Cells Editing

Calibri 11 A A Wrap Text Merge & Center General Conditional Formatting Format as Table Cell Styles Insert Delete Format Sort & Filter Find & Select

J12

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	A	10																	
2	A	12																	
3	A	12.5																	
4	A	13																	
5	A	15																	
6	A	17																	
7	B	9																	
8	B	12																	
9	B	13																	
10	B	7.5																	
11	B	5																	
12	B	11																	
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			

Sheet1

Ready

Start at row1 & column2

The screenshot shows the GraphPad Prism interface with the 'Import and Paste Special Choices' dialog box open. The dialog has several tabs: Source, View, Filter, Placement, and Info & Notes. The 'Info & Notes' tab is active, showing options for handling unknown and excluded values, rows, and columns.

Unknown and excluded values:

- Missing values are denoted by (i.e. "99" or "na")
- Exclude values preceded or followed by asterisks (i.e. "45.6*" or "*45.6").

Rows:

- Start at Row: End at: Last Row Row #
- Skip all rows until column #
- Skip all rows after column #
- Skip every row where column #
- Decimate: Import a row, skip rows, import another row and repeat.

Columns:

- Start at Column: End at: Last Column Column #
- Unstack. Column # contains data. Column # contains group number.
- Skip columns. Import a column, skip column(s), import another column, and repeat.

At the bottom of the dialog, there is a checkbox for 'Use these settings as the default for Import and Paste Special' and a link for 'Restore original defaults'. Buttons for 'Help', 'Cancel', and 'Import' are also present.

The background spreadsheet shows a table with columns labeled 'Group I', 'Group J', 'Group K', and 'Group L', each with a 'Title' header. The current selection is at Row 16, Column D.

To determine 6 values only in every column

The screenshot shows the GraphPad Prism 9.5.1 interface. The main window displays a data table with 4 columns labeled 'Group A', 'Group B', 'Group C', and 'Group D', each with a 'Title' header. The rows are numbered 1 to 23. A dialog box titled 'Import and Paste Special Choices' is open, showing the following settings:

- Names:** Rename data table, using Imported file name Text in row 1
- Column titles:** Choose automatically
- Top-left position of inserted data within Prism:** The current position of the insertion point. Row 16 Column D
- Row and column arrangement:** Maintain row and column arrangement of the data source. Transpose. Each row becomes a column. By rows. Place [] values on each row. After [] rows, start a new column. By columns. Stack 6 values in each column.
- Empty rows:** If all values in a row are blank: leave a blank row in Prism skip over that row

At the bottom of the dialog, there is a checkbox for 'Use these settings as the default for Import and Paste Special' and a link for 'Restore original defaults'. Buttons for 'Help', 'Cancel', and 'Import' are also visible.

The status bar at the bottom of the Prism window shows 'Data 3' and 'Row 16, Column D'. The Windows taskbar at the very bottom shows the system tray with the time 09:53 and date 2023/05/20.

Enter import

Project1.pzfx:Data 3 - GraphPad Prism 9.5.1 (733)

File Edit View Insert Analyze Change Arrange Family Window Help

Prism File Sheet Undo Clipboard Analysis Change Import Draw Write Text Export Print Send Cloud LA Help

Search...

- Data Tables
 - Data 1
 - Data 2
 - Data 3**
 - New Data Table...
- Info
 - Project info 1
 - New Info...
- Results
 - Ordinary one-way ANOVA of D...
 - New Analysis...
- Graphs
 - Data 1
 - Data 2
 - Data 3**
- Family
 - Data 3**
 - Data 3

	Group A	Group B	Group C	Group D	Group E	Group F	Group G	Group H	Group I	Group J	Group K	Group L
	Data Set-A	Data Set-B	Title	Title	Title	Title	Title	Title	Title	Title	Title	Title
1	10.0	9.0										
2	12.0	12.0										
3	12.5	13.0										
4	13.0	7.5										
5	15.0	5.0										
6	17.0	11.0										
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												

Data 3 Row 1, Column A Selected: Rows 6, Columns 2

Take another example

cd (1) - Excel | huda1981711@outlook.com

File Home Insert Page Layout Formulas Data Review View Help Tell me what you want to do

Clipboard Font Alignment Number Styles Cells Editing

C13

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	A	10																	
2	A	12																	
3	A	12.5																	
4	A	13																	
5	A	na																	
6	A	17																	
7	B	9																	
8	B	12																	
9	B	13																	
10	B	7.5																	
11	B	5																	
12	B	11																	
13	B	11.4																	
14	B	13																	
15																			
16																			
17																			
18																			
19																			
20																			

Sheet1

Ready

Search...

Data Tables

Data 1

Data 2

Data 3

Data 4

New Data Table...

Info

Project info 1

New Info...

Results

Ordinary one-way ANOVA of D...

New Analysis...

Graphs

Data 1

Data 2

Family

Data 4

Data 4

Group A

Title

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

Group I

Title

Group J

Title

Group K

Title

Group L

Title

Import and Paste Special Choices

Source View Filter Placement Info & Notes

Unknown and excluded values

- Missing values are denoted by (i.e. "99" or "na")
- Exclude values preceded or followed by asterisks (i.e. "45.6*" or "*45.6").

Rows

- Start at Row: End at: Last Row Row #
- Skip all rows until column #
- Skip all rows after column #
- Skip every row where column #
- Decimate: Import a row, skip rows, import another row and repeat.

Columns

- Start at Column: End at: Last Column Column #
- Unstack. Column # contains data. Column # contains group number.
- Skip columns. Import a column, skip column(s), import another column, and repeat.

- Use these settings as the default for Import and Paste Special

[Restore original defaults](#)

Help

Cancel

Import

Data 4

Row 1, Column A

chick import

Project1.pzfx:cd (1) - GraphPad Prism 9.5.1 (733)

File Edit View Insert Analyze Change Arrange Family Window Help

Prism File Sheet Undo Clipboard Analysis Change Import Draw Write Text Export Print Send Cloud LA Help

Search...

- Data Tables
 - Data 1
 - Data 2
 - Data 3
 - cd (1)**
 - New Data Table...
- Info
 - Project info 1
 - New Info...
- Results
 - Ordinary one-way ANOVA of D...
 - New Analysis...
- Graphs
 - Data 1
 - Data 2
- Family
 - cd (1)**
 - cd (1)

	Group A	Group B	Group C	Group D	Group E	Group F	Group G	Group H	Group I	Group J	Group K	Group L
	Data Set-A	Title	Title	Title	Title	Title	Title	Title	Title	Title	Title	Title
1	10.0											
2	12.0											
3	12.5											
4	13.0											
5												
6	17.0											
7	9.0											
8	12.0											
9	13.0											
10	7.5											
11	5.0											
12	11.0											
13	11.4											
14	13.0											
15												
16												
17												
18												
19												
20												
21												
22												
23												

Row 1, Column A Selected: Rows 14, Columns 1

Search...

- Data Tables
 - Data 1
 - Data 2
 - Data 3**
 - New Data Table...
- Info
 - Project info 1
 - New Info...
- Results
 - Ordinary one-way ANOVA of D...
 - New Analysis...
- Graphs
 - Data 1
 - Data 2
 - Data 3**
- Family
 - Data 3**
 - Data 3

	Group A	Group B	Group C	Group D
	Title	Title	Title	Title
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				

Import and Paste Special Choices

Source View Filter Placement Info & Notes

Names

Rename data table, using Imported file name Text in row 1

Column titles: Choose automatically

Top-left position of inserted data within Prism

The current position of the insertion point.

Row 16 Column D

Row and column arrangement

Maintain row and column arrangement of the data source.

Transpose. Each row becomes a column.

By rows. Place values on each row.

After rows, start a new column.

By columns. Stack 6 values in each column.

Empty rows

If all values in a row are blank: leave a blank row in Prism skip over that row

Use these settings as the default for Import and Paste Special

[Restore original defaults](#) Help Cancel **Import**

File Edit View Insert Analyze Change Arrange Family Window Help

Prism File Sheet Undo Clipboard Analysis Change Import Draw Write Text Export Print Send Cloud LA Help

Search...

Data Tables

- Data 1
- Data 2
- Data 3
- cd (1)
- Data 5
- cd (1)**
- New Data Table...

Info

- Project info 1
- New Info...

Results

- Ordinary one-way ANOVA of D...
- New Analysis...

Graphs

Family

- cd (1)
- cd (1)

	Group A	Group B	Group C	Group D	Group E	Group F	Group G	Group H	Group I	Group J	Group K	Group L
	Data Set-A	Data Set-B	Data Set-C	Title	Title	Title	Title	Title	Title	Title	Title	Title
1	10.0	9.0	11.4									
2	12.0	12.0	13.0									
3	12.5	13.0										
4	13.0	7.5										
5		5.0										
6	17.0	11.0										
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												



Data 6 Row 9, Column B

Where is the wrong?

The screenshot shows the Microsoft Excel interface with the following data in column C:

	A	B	C
1	A	10	
2	A	12	
3	A	12.5	
4	A	13	
5	A	na	
6	A	17	
7	B	9	
8	B	12	
9	B	13	
10	B	7.5	
11	B	5	
12	B	11	
13	B	11.4	
14	B	13	
15			
16			
17			
18			
19			
20			

A red arrow points from the value 17 in row 6, column B to the value 13 in row 14, column C. A blue arrow points from the value 13 in row 9, column B to the value 13 in row 14, column C. The discrepancy is that the value 13 in row 14, column C does not match the value 17 in row 6, column B, which is the value immediately above it in the same column.

PROTECTED VIEW Be careful—files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. [Enable Editing](#)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	A	10																	
2	A	12																	
3	A	12.5																	
4	A	13																	
5	A	na																	
6	A	17																	
7																			
8																			
9	B	9																	
10	B	12																	
11	B	13																	
12	B	7.5																	
13	B	5																	
14	B	11																	
15	B	11.4																	
16	B	13																	
17																			
18																			
19																			
20																			
21																			
22																			
23																			

Project1.pzix.ei - GraphPad Prism 9.5.1 (735)

File Edit View Insert Analyze Change Arrange Family Window Help

Prism File Sheet Undo Clipboard Analysis Change Import Draw Write Text Export Print Send Cloud LA Help

Search...

▼ Data Tables

- Data 1
- Data 2
- ef**
- New Data Table...

▼ Info

- Project info 1
- New Info...

▼ Results

- Ordinary one-way ANOVA of D...
- New Analysis...

▼ Graphs

- Data 1
- Data 2
- ef**

Family

- ef**
- ef

	Group A	Group B	Group C	Group D	Group E	Group F	Group G	Group H	Group I	Group J	Group K	Group L
	Data Set-A	Data Set-B	Title	Title	Title	Title	Title	Title	Title	Title	Title	Title
1	10.0	9.0										
2	12.0	12.0										
3	12.5	13.0										
4	13.0	7.5										
5		5.0										
6	17.0	11.0										
7		11.4										
8		13.0										
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												

ok

Row 20, Column H

Statistical tests in Graphpad Prism

```
graph TD; A[Statistical tests in Graphpad Prism] --- B[Compare groups of measurements]; A --- C[Relationship between X and Y]; A --- D[Compare groups of categorical data]; A --- E[Survival analysis]; A --- F[Sensitivity-specificity analysis: ROC curve];
```

Compare groups of measurements

Relationship between X and Y

Compare groups of categorical data

Survival analysis

Sensitivity-specificity analysis: ROC curve

Compare groups of measurements

The screenshot shows a Microsoft Excel worksheet with the following data:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	male	female																	
2		154	43																
3		23	34																
4		45	65																
5		54	77																
6		61	46																
7		61	65																
8		68	51																
9		76	45																
10		83	39																
11		91	33																
12	NA		27																
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			

The Excel interface includes the following elements:

- Ribbon:** File, Home, Insert, Page Layout, Formulas, Data, Review, View, Help.
- Home Tab:** Clipboard, Font (Calibri, 14), Paragraph (B, I, U, Wrap Text, Merge & Center), Number (General, %, .00, .00), Styles (Conditional Formatting, Format as Table, Cell Styles), Cells (Insert, Delete, Format), Editing (Sort & Filter, Find & Select).
- Formula Bar:** B1, female
- Status Bar:** Ready, Count: 2, 100%
- Taskbar:** Windows taskbar with various application icons and system tray (93°, ENG, 12:55).

	Group A	Group B	Group C	Group D	Group E	Group F	Group G	Group H	Group I	Group J	Group K	Group L	Group M	Group N
	Male	Female							Title	Title	Title	Title	Title	Title
1	154.0	43.0000												
2	23.0	34.0000												
3	45.0	65.0000												
4	54.0	77.0000												
5	45.0	46.0000												
6	60.5	65.0000												
7	68.0	50.6667												
8	75.5	44.6667												
9	83.0	38.6667												
10	90.5	32.6667												
11		26.6667												
12														
13														
14														
15														
16														
17														
18														
19														
20														
21														
22														

Parameters: Normality and Lognormality Tests

Which distribution(s) to test?

- Normal (Gaussian) distribution
- Lognormal distribution
- Compute the relative likelihood of sampling from a Gaussian (normal) vs. a lognormal distribution (assuming no other possibilities)

Methods to test distribution(s)

- Anderson-Darling test
- D'Agostino-Pearson omnibus normality test
- Shapiro-Wilk normality test
- Kolmogorov-Smirnov normality test with Dallal-Wilkinson-Lilliefors P value

Graphing options

- Create a QQ plot

Subcolumns

- Average the replicates in each row, and then perform the calculation for each column
- Perform calculations on each subcolumn separately
- Treat all the values in all subcolumns as single set of data

Calculations

Significance level (alpha)

Output

Show this many significant digits (for everything except P values):

P value style: N =

Make these choices the default for future analyses.

Learn Cancel OK



OBJECTIVE

- ❖ Introduction to Origin
- ❖ Import files into origin.
- ❖ Plot simple data (X and Y).
- ❖ Formatting of plot
- ❖ Exporting data out of Origin data presentation.
- ❖ Linear Fitting: How to perform linear fitting/regression in Origin
- ❖ How to plot bar graph and stacked bar graph in Origin.
- ❖ How to Plot Double Y Axis Graph.
- ❖ How to Make a Plot with Two X-axis and One Y-axis in Origin.

Introduction to Origin

The screenshot displays the Origin 2022 software interface. The main window is titled "Origin 2022 - UNTITLED *". The menu bar includes File, Edit, View, Data, Plot, Column, Worksheet, Format, Analysis, Statistics, Image, Tools, Preferences, Connectivity, Window, Social, and Help. The toolbar shows various icons for file operations, editing, and data analysis. The Project Explorer on the left shows "Project Explorer (1)", "Messages Log", and "Smart Hint Log". The main workspace shows a spreadsheet window titled "Book1" with the following data:

	A(X)	B(Y)
Long Name		
Units		
Comments		
F(x)=		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		

The spreadsheet window also shows "Sheet1" at the bottom. The status bar at the bottom of the main window displays the page number "10".

Introduction to Origin

The screenshot displays the Origin 2022 software interface. The main window is titled "Origin 2022 - UNTITLED *". The menu bar includes File, Edit, View, Data, Plot, Column, Worksheet, Format, Analysis, Statistics, Image, Tools, Preferences, Connectivity, Window, Social, and Help. The toolbar shows various icons for file operations, editing, and data analysis. The Project Explorer on the left shows "Project Explorer (1)", "Messages Log", and "Smart Hint Log". The main workspace shows a worksheet named "Book1" with columns A(X) and B(Y). The worksheet contains the following data:

	A(X)	B(Y)
Long Name		
Units		
Comments		
F(x)=		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

A context menu is open over column B, showing the following options:

- Paste (Ctrl+V)
- Paste Link (Ctrl+Alt+V)
- View
- Show Organizer
- Show Script Panel
- Copy Format
- Paste Format
- Add New Sheet
- Add Graph
- Add Text...
- Add New Column** (highlighted)
- Clear Worksheet...
- Go To... (Ctrl+G)
- Mask
- Properties... (F4)

The status bar at the bottom shows "10" and a tooltip that reads "Add a new column to the end of the worksheet".

Introduction to Origin

The screenshot displays the Origin 2022 software interface. The main window is titled "Book1" and contains a worksheet with two columns, A(X) and B(Y). The worksheet has a header row and several rows of data. A context menu is open over the worksheet, showing various options. The "View" option is selected, and a sub-menu is open, showing options for displaying various elements of the worksheet.

Origin 2022 - UNTITLED *

File Edit View Data Plot Column Worksheet Format Analysis Statistics Image Tools Preferences Connectivity Window Social Help

100%

Default: Arial 0 B I U x² x₂ α β A X Y Z NONE

Project Explorer (1) Messages Log Smart Hint Log

Book1

	A(X)	B(Y)
Long Name		
Units		
Comments		
F(x)=		
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

Sheet1

- Paste Ctrl+V
- Paste Link Ctrl+Alt+V
- View
 - Long Name
 - Units
 - Comments
 - Sampling Interval
 - Sparklines
 - Filter
 - F(x)= Ctrl+Shift+U
 - Categories
 - Row Labels for Column Label Rows
 - Column Header
 - Row Header
 - Column Grid
 - Row Grid
 - Page Break Preview Lines
- Show Organizer
- Show Script Panel
- Copy Format
- Paste Format
- Add New Sheet
- Add Graph
- Add Text...
- Add New Column
- Clear Worksheet...
- Go To... Ctrl+G
- Mask
- Properties... F4

Import files into origin

The screenshot displays the Origin 2022 software interface. The 'Data' menu is open, showing options for connecting to various data sources and importing files. The 'Import From File' sub-menu is also open, listing various file formats and their associated software. The 'Excel (XLS, XLSX, XLSM)...' option is highlighted. The main workspace shows a spreadsheet with columns 0-20 and a row labeled 'Sheet1'. The status bar at the bottom indicates 'Import Excel files' and 'Average=0 Sum=0 Count=0 AU : ON (2x32) 0 12KB - [Boo'.

Origin 2022 - UNTITLED *

File Edit View **Data** Plot Column Worksheet Format Analysis Statistics Image Tools Preferences Connectivity Window Social Help

Connect to File
Connect to Cloud...
Connect to Web...
Connect to Database
Connect Multiple Files...
Clone Import...
Re-Import Directly Ctrl+4
Re-Import...
Import All Connected Data
Import From File
Define Name... Ctrl+L
Name Manager... Ctrl+F3
Recent Imports

Import Wizard... Ctrl+3
Multiple ASCII...
Image to Matrix...
Thermo (SPC, CGM)...
pCLAMP (ABF, DAT, AB?)...
Princeton Instruments (SPE)...
Sound (WAV)...
CDF (CDF)...
NI DIAdem (DAT)...
Famos (DAT, RAW)...
ETAS INCA MDF (DAT, MDF)...
IgorPro (PXP, IBW)...
SigmaPlot (JNB)...
Prism (PZFX, XML)...
Excel (XLS, XLSX, XLSM)...
Add/Remove File Types...

Project Explorer (1) Messages Log Smart Hint Log

Object Manager
Book
Sheet
Apps
Add
Stats A
Simp
Send O
to Po
Send O
to W
Gra

Import Excel files Average=0 Sum=0 Count=0 AU : ON (2x32) 0 12KB - [Boo

Plot simple data (X and Y)

The screenshot displays the Origin 2022 interface. The main window shows a worksheet named 'Book1' with the following data:

	A(X)	B(Y)
Long Name	Conc.	Time
Units		
Comments		
F(x)=		
1	1	
2	2	
3	3	
4	4	
5	5	
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

The 'Plot' menu is open, showing various options. The 'Line' option is selected, and a sub-menu is visible with the following options:

- Line
- Symbol
- Line + Symbol
- Column/Bar/Pie
- Multi-Y
- Y-offset/Waterfall
- Multi-Panel
- 3D XYY
- 3D Surface
- 3D Symbol/Bar/Vector
- Statistics
- Area
- Contour/Heatmap
- Profile
- Specialized
- Stock
- Bridge Chart
- System Templates...
- User Templates
- 1 Line + Symbol

The status bar at the bottom right shows: Average=4.5 Sum=45 Count=10 AU : C

Plot simple data (X and Y)

The screenshot displays the Origin 2022 software interface. The main window shows a data table with columns A(X) and B(Y). The data points are as follows:

	A(X)	B(Y)
Long Name	Conc.	Time
Units		
Comments		
F(x)=		
1	1	2
2	2	4
3	3	6
4	4	8
5	5	10
6		
7		
8		
9		
10		
11		
12		
13		
14		

A context menu is open over the data table, listing various plot types:

- Scatter
- Grouped Scatter - Indexed Data...
- Scatter Central
- Column Scatter
- Y Error
- X Y Error
- Vertical Drop Line
- Bubble
- Color Mapped
- Bubble + Color Mapped

The software interface includes a menu bar (File, Edit, View, Data, Plot, Column, Worksheet, Format, Analysis, Statistics, Image, Tools, Preferences, Connectivity, Window, Social, Help), a toolbar, and a status bar at the bottom.

Formatting of plot

The screenshot shows the Origin 2022 interface with a data table in 'Book1' and a context menu open over it. The table has columns for 'Long Name', 'A(X)', 'B(Y)', and 'C(Y)'. The 'A(X)' column is labeled 'Conc.' and 'B(Y)' is labeled 'Time'. The data points are as follows:

Long Name	A(X)	B(Y)	C(Y)
Units			
Comments			
F(x)=			
1	1	2	
2	2	4	
3	3	6	
4	4	8	
5	5	10	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

The context menu is open, showing options for 'Set As'. The 'Y' axis is selected. The status bar at the bottom right shows 'Average=0 Sum=0 Count=0 AU : ON (3x'.

Formatting of plot

Origin 2022 - UNTITLED *

File Edit View Graph Format Insert Data Analysis Gadgets Tools Preferences Connectivity Window Social Help

100%

Default: Arial 0

Project Explorer (1) Messages Log Smart Hint Log

	A(X)	B(Y)	C(xEr±)	D(yEr±)
Long Name	Conc.	Time		
Units				
Comments				
F(x)=				
1	1	2	0.1	0.1
2	2	4	0.2	0.2
3	3	6	0.3	0.3
4	4	8	0.4	0.4
5	5	10	0.5	0.5
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Book1

Graph1

Graph2

Sheet1

10

Formatting of plot

The screenshot displays the Origin 2022 interface. On the left, a data table is shown with columns A(X), B(Y), C(xEr±), and D(yEr±). The data points are as follows:

	A(X)	B(Y)	C(xEr±)	D(yEr±)
Long Name	Conc.	Time		
Units				
Comments				
F(x)=				
1	1	2	0.1	0.1
2	2	4	0.2	0.2
3	3	6	0.3	0.3
4	4	8	0.4	0.4
5	5	10	0.5	0.5
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

In the center, a graph window titled 'Graph1' shows a plot of Time versus Conc. The plot features a blue line with diamond markers and error bars. A top-X right-Y layer is visible, with the X-axis at the top and the Y-axis on the right. A blue arrow points from the 'Add Top-X Right-Y Layer' button in the Apps panel to this layer.

On the right side, the Object Manager shows 'Graph1 - Plots' with 'Layer1' selected. The Apps panel contains the following options:

- Add Apps
- All Connectors
- Stats Advisor
- Add Top-X Right-Y Layer**
Add a linked layer to the active layer that displays the X axis on top, and the Y axis on the right
- Send Graphs to PowerP...
- Send Graphs to Word

Formatting of plot

Origin 2022 - UNTITLED *

File Edit View Graph Format Insert Data Analysis Gadgets Tools Preferences Connectivity Window Social Help

X Axis - Layer 2

Scale Tick Labels Title Grids Line and Ticks Special Ticks Reference Lines Breaks Rug

Horizontal
Vertical

From 0
To 10
Type Linear
Rescale Normal
Rescale Margin(%) 8
Reverse

Major Ticks
Type By Increment
Value 2
Anchor Tick

Major tick intervals are calculated from Anchor Tick value.

Minor Ticks
Type By Counts
Count 1

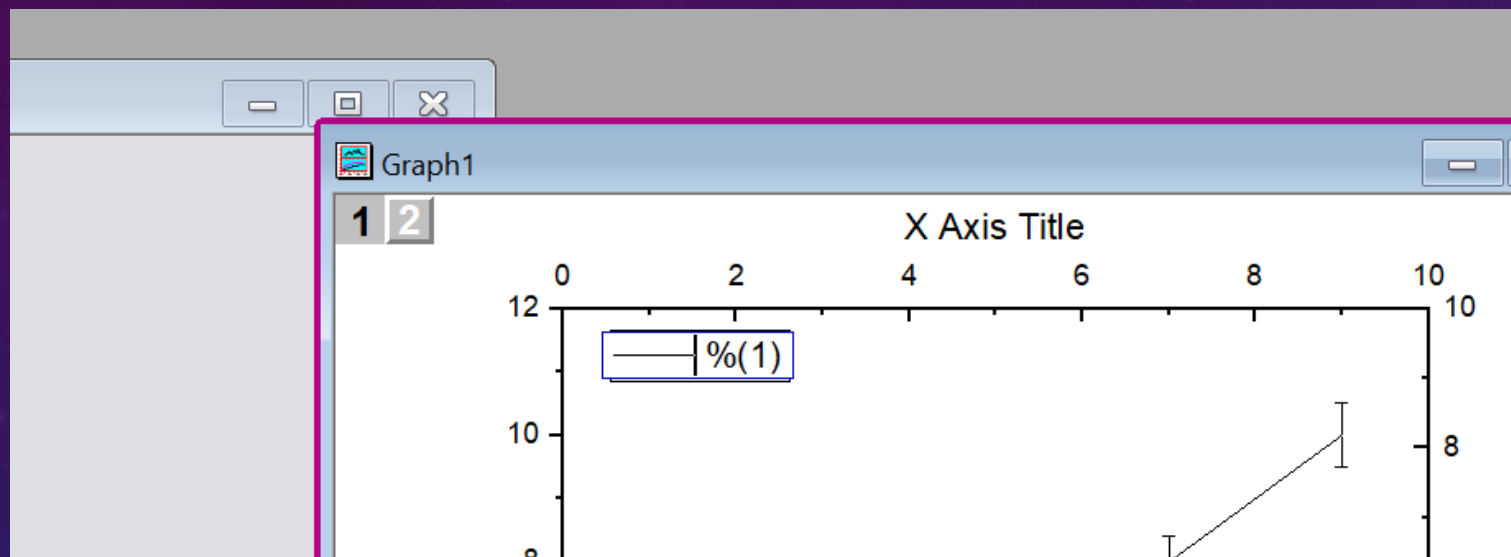
Select multiple axes to customize together.

Layer 2 Apply To... OK Cancel Apply

axis Title
6 8 10
10
8
6
4
2
0
Y Axis Title
3 4 5
Conc.

Conc.	Y Axis Title
3	4.5
4	6.5
5	8.5

Formatting of plot



Exporting data out of Origin data presentation

The screenshot displays the Origin 2022 interface. On the left, a data table is visible with columns A(X), B(Y), C(xEr±), and D(yEr±). The data points are as follows:

	A(X)	B(Y)	C(xEr±)	D(yEr±)
Long Name	Conc.	Time		
Units				
Comments				
F(x)=				
1	1	2	0.1	0.1
2	2	4	0.2	0.2
3	3	6	0.3	0.3
4	4	8	0.4	0.4
5	5	10	0.5	0.5
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

In the center, a graph titled 'Graph1' is shown. The x-axis is labeled 'Conc.' and ranges from 0 to 5. The y-axis is labeled 'Time' and ranges from 0 to 12. A data series is plotted with error bars, showing a linear relationship. A context menu is open over the graph, listing various actions such as 'Copy', 'Export Graph...', 'Fit Layers to Page...', and 'Send Graphs to Word...'. The 'Copy' option is highlighted, and a sub-menu is visible with options like 'Copy Page' (Ctrl+J) and 'Copy Graph as Image...' (Ctrl+Alt+J).

Exporting data out of Origin data presentation

The screenshot displays the Origin 2022 interface. The main window shows a data table with columns A(X), B(Y), C(xEr±), and D(yEr). The data points are as follows:

	A(X)	B(Y)	C(xEr±)	D(yEr)
Long Name	Conc.	Time		
Units				
Comments				
F(x)=				
1	1	2	0.1	
2	2	4	0.2	
3	3	6	0.3	
4	4	8	0.4	
5	5	10	0.5	
6				
7				
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12				
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14				
15				
16				
17				
18				
19				
20				

An 'Export Graph: expG2img' dialog box is open, showing the following settings:

- Dialog Theme: [Empty]
- Export graph with a simple dialog: [Checked]
- Image Type: PNG
- File Name: <long name>
- File Path: C:\Users\LENOVO\Documents\OriginLab\User Files\
- Graph Size: 10.72 x 8.21 (inch)
- DPI: 300
- Width in Pixels: 3216 (Auto checked)
- Height in Pixels: 2461
- File will be saved as: C:\Users\LENOVO\Documents\OriginLab\User Files\Graph1.png

The 'File' menu is open, with 'Export Graph...' selected. Other visible options include New, Clone current Project..., Open..., Append..., Close, Save Project, Save Project As..., Save Window As..., Save Template As..., Batch Processing..., Print..., Print Preview, Page Setup..., Export Graphs (Advanced)..., Recent Exports, Recent Books, Recent Graphs, Recent Projects, Properties..., and Exit.

Linear Fitting: How to perform linear fitting/regression in Origin

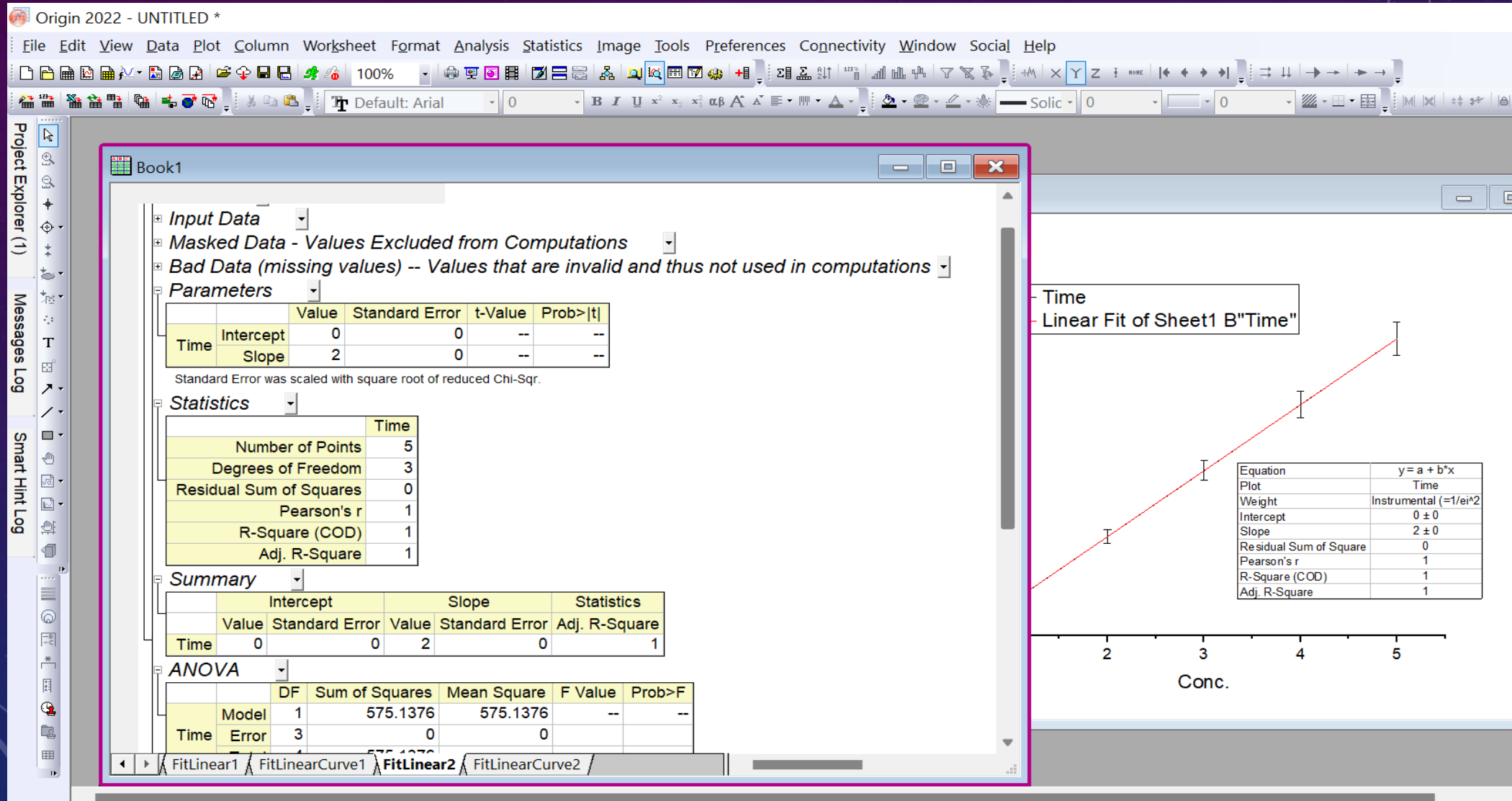
The screenshot shows the Origin 2022 interface. The 'Analysis' menu is open, showing the path: Analysis > Fitting > Linear Fit > 1 <Last used> > Open Dialog... The 'Project Explorer' on the left shows a data table with columns 'A(X)', 'E', and 'T'. The 'Messages Log' is also visible.

Long Name	Conc.	T	E
Units			
Comments			
F(x)=			
1	1	2	0.1
2	2	4	0.2
3	3	6	0.3
4	4	8	0.4
5	5	10	0.5
6			

The graph shows 'Time' on the y-axis (ranging from 2 to 12) and 'Conc.' on the x-axis (ranging from 1 to 5). A red line represents the linear fit, and blue diamonds represent the data points with error bars. A legend in the top-left corner of the graph area identifies the red line as 'Linear Fit of Sheet1 B"Time"'. A data table is overlaid on the graph, providing fit statistics:

Parameter	Value
Equation	$y = a + b \cdot x$
Plot	Time
Weight	Instrumental (=1/ei^2)
Intercept	0 ± 0
Slope	2 ± 0
Residual Sum of Square	0
Pearson's r	1
R-Square (COD)	1
Adj. R-Square	1

Linear Fitting: How to perform linear fitting/regression in Origin



How to Plot Double Y Axis Graph.

The screenshot displays the Origin 2022 software interface. The main window shows a worksheet with columns A(X) and Conc. The 'Plot' menu is open, and the 'Multi-Y' sub-menu is selected, showing options like 'Double-Y', '3Ys Y-YY', and 'Multiple Y Axes...'. The graph area shows a plot with 'Time' on the X-axis and 'Conc.' on the Y-axis. The plot features a line with error bars and a secondary Y-axis on the right labeled 'Y Axis Title'.

Long Name	Units	Comments	F(x)=
1	1		
2	2		
3	3		
4	4		
5	5		
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Plot Menu Options:

- Line
 - Symbol
 - Line + Symbol
 - Column/Bar/Pie
- Multi-Y
 - Double-Y
 - 3Ys Y-YY
 - 3Ys Y-Y-Y
 - 4Ys Y-YYY
 - 4Ys YY-YY
 - Multiple Y Axes...
 - Colormapped Line Series
- Y-offset/Waterfall
- Multi-Panel
- 3D XYY
- 3D Surface
- 3D Symbol/Bar/Vector
- Statistics
- Area
- Contour/Heatmap
- Profile
- Specialized
- Stock
- Bridge Chart
- System Templates...
- User Templates
- 1 Line
- 2 Line + Symbol

How to Plot Double Y Axis Graph.

Origin 2022 interface showing a worksheet and a double Y-axis graph.

Worksheet Data:

	A(X)	B(Y)	C(Y)	D(yEr±)
1	1	2	6	0.1
2	2	4	8	0.2
3	3	6	10	0.3
4	4	8	15	0.4
5	5	10	18	0.4

Graph4:

Double-Y
Plot 2 selected worksheet Y columns
(1:Left Axis Data 2:Right Axis Data) as
Double Y Axis Graph

How to Plot Double Y Axis Graph.

The screenshot displays the Origin 2022 interface. A data table is visible in the background with the following data:

	A(X1)	B(X2)	C(Y)
Long Name			
Units			
Comments			
F(x)=			
1	1		7
2	2		14
3	3		22
4	4		30
5	5		37
6			
7			
8			
9			
10			
11			

The 'Plot' menu is open, showing the following options:

- Line
 - Symbol
 - Scatter
 - Scatter Central
 - Column Scatter
 - Y Error
 - XY Error
 - Scatter + Rug
 - Vertical Drop Line
 - Bubble
 - Color Mapped
 - Bubble + Color Mapped
 - Grouped Scatter - Indexed Data
 - Line + Symbol
 - Column/Bar/Pie
 - Multi-Y
 - Y-offset/Waterfall
 - Multi-Panel
 - 3D XYY
 - 3D Surface
 - 3D Symbol/Bar/Vector
 - Statistics
 - Area
 - Contour/Heatmap
 - Profile
 - Specialized
 - Stock
 - Bridge Chart
 - System Templates...
 - User Templates
- 1 Scatter
- 2 Line
- 3 Line + Symbol

- Cut (Ctrl+X)
- Copy
- Copy Columns to...
- Paste (Ctrl+V)
- Insert
- Delete
- Clear (Delete)
- Remove Links
- Set As
- Set As Categorical
- Set Multiple Columns Values... (Ctrl+Shift+Q)
- Fill Columns With
- Sort Columns
- Sort Worksheet
- Sort Columns by Label...
- Normalize...
- Statistics on Rows...
- Statistics on Columns...
- Hide/Unhide Columns
- Move Columns
- Format Cells...
- Conditional Formatting
- Properties...

How to Make a Plot with Two X-axis and One Y-axis in Origin

The screenshot displays the Origin 2022 interface. On the left, a data table window titled 'Book1' shows the following data:

	A(X1)	B(X2)	C(Y2)
Long Name			
Units			
Comments			
F(x)=			
1	1	7	5
2	2	14	10
3	3	22	15
4	4	30	20
5	5	37	25
6			
7			
8			
9			
10			
11			

On the right, a plot window titled 'Graph1' shows a scatter plot with two X-axes and one Y-axis. The bottom X-axis is labeled 'A' and ranges from 1 to 5. The right Y-axis ranges from 0 to 25. The data points are plotted as black squares. A legend in the top right corner of the plot area shows a black square labeled 'C'. The plot area is labeled '1' in the top left corner.

The Object Manager on the right shows the following structure:

- Graph1 - Plots
 - Layer1
 - C

The Apps panel on the right shows the following options:

- Add Apps
- Stats Advisor

A tooltip for the 'Add Top-X Right-Y Layer' option reads: "Add a linked layer to the active layer that displays the X axis on top, and the Y axis on the right".

How to Make a Plot with Two X-axis and One Y-axis in Origin

The image shows the Origin 2022 software interface. On the left, the 'Book1' window displays a data table with three columns: A(X1), B(X2), and C(Y2). The table contains 11 rows of data. On the right, the 'Graph1' window shows a plot with two X-axes and one Y-axis. A context menu is open over the plot, with 'Plot Setup...' selected.

	A(X1)	B(X2)	C(Y2)
Long Name			
Units			
Comments			
F(x)=			
1	1	7	5
2	2	14	10
3	3	22	15
4	4	30	20
5	5	37	25
6			
7			
8			
9			
10			
11			

The 'Graph1' window shows a plot with two X-axes and one Y-axis. The Y-axis is labeled 'Y Axis Title' and ranges from 0 to 10. The X-axes are labeled 'X Axis Title' and 'X Axis Title'. A data point is plotted at (5, 5) with a legend entry 'C'.

- Hide Layer
- Hide Other Layers
- Show Active Layer Only
- Set Active Layer By Layer Icon Only
- Delete Layer
- Layer Contents... F12
- Plot Setup...**
- Double click to open Plot Setup
- Axis...
- Layer Properties...
- Layer Management...
- Arrange Layers...
- Bring to Front
- Bring Forward
- Push Backward
- Push to Back
- Data List

How to Make a Plot with Two X-axis and One Y-axis in Origin

The image shows the Origin 2022 software interface. In the background, a data table is visible with columns A(X1) and B(X2). The foreground shows the 'Plot Setup: Configure Data Plots in Layer' dialog box. The dialog box has several sections: 'Available Data' with a table of worksheets, 'Plot Type' with a list of options, 'Plot List' with a table of plots, and 'Show(S)' with a table of plot settings.

Available Data:

Book	Sheet	Cols	Rows	File Name	File Date	Created	Modified
Book1	Sheet1	3	32			20/05/2023 11:36:11	20/05/2023 11:42:58

Plot Type:

- Line
- Scatter
- Line + Symbol
- Column / Bar
- Area

Plot List:

Plot	Range	Show	Plot Type	Legend
Layer 1		<input type="checkbox"/> Rescale	<input checked="" type="checkbox"/>	
TopXRightY		<input type="checkbox"/> Rescale	<input checked="" type="checkbox"/>	

Show(S) [Book1]Sheet1:

X	Y	yEr	L	Column	Long Name	Comments	Sampling Interval	Position
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<autoX>	From/Step=			0
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A				1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B				2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C				3

How to Make a Plot with Two X-axis and One Y-axis in Origin

The image shows the Origin 2022 software interface. In the background, a spreadsheet titled 'Book1' is visible with columns A(X1) and B(X2). The data in the spreadsheet is as follows:

	A(X1)	B(X2)
Long Name		
Units		
Comments		
F(x)=		
1	1	7
2	2	14
3	3	22
4	4	30
5	5	37
6		
7		
8		
9		
10		
11		

The foreground shows the 'Plot Setup: Configure Data Plots in Layer' dialog box. The 'Available Data' table is as follows:

Book	Sheet	Cols	Rows	File Name	File Date	Created	Modified
Book1	Sheet1	3	32			20/05/2023 11:36:11	20/05/2023 11:42:58

The 'Plot Type' list includes: Line, Scatter, Line + Symbol, Column / Bar, and Area. The 'Show(S)' section shows the following configuration:

X	Y	yEr	L	Column	Long Name	Comments	Sampling Interval	Position
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<autoX>	From/Step=			0
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A				1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	B				2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	C				3

The 'Plot List' section shows the following configuration:

Plot	Range	Show	Plot Type	Legend
Layer 1		<input type="checkbox"/> Rescale	<input checked="" type="checkbox"/>	
TopXRightY		<input type="checkbox"/> Rescale	<input checked="" type="checkbox"/>	

Buttons at the bottom of the dialog include: Preview, OK, Cancel, and Apply.

The background is a dark blue gradient with a subtle pattern of small white stars. Overlaid on this are several faint, light blue technical diagrams. On the right side, there is a large circular gauge with a scale from 0 to 210 and a needle pointing towards 180. Below it is another circular diagram with concentric circles and arrows. In the bottom left, there are more circular diagrams with arrows. The text 'Thank You' is centered in a white, serif font.

Thank You