

ICMME2023 – Pre-Conference Workshop

Introduction to Data Analysis using Minitab

What is MINITAB?

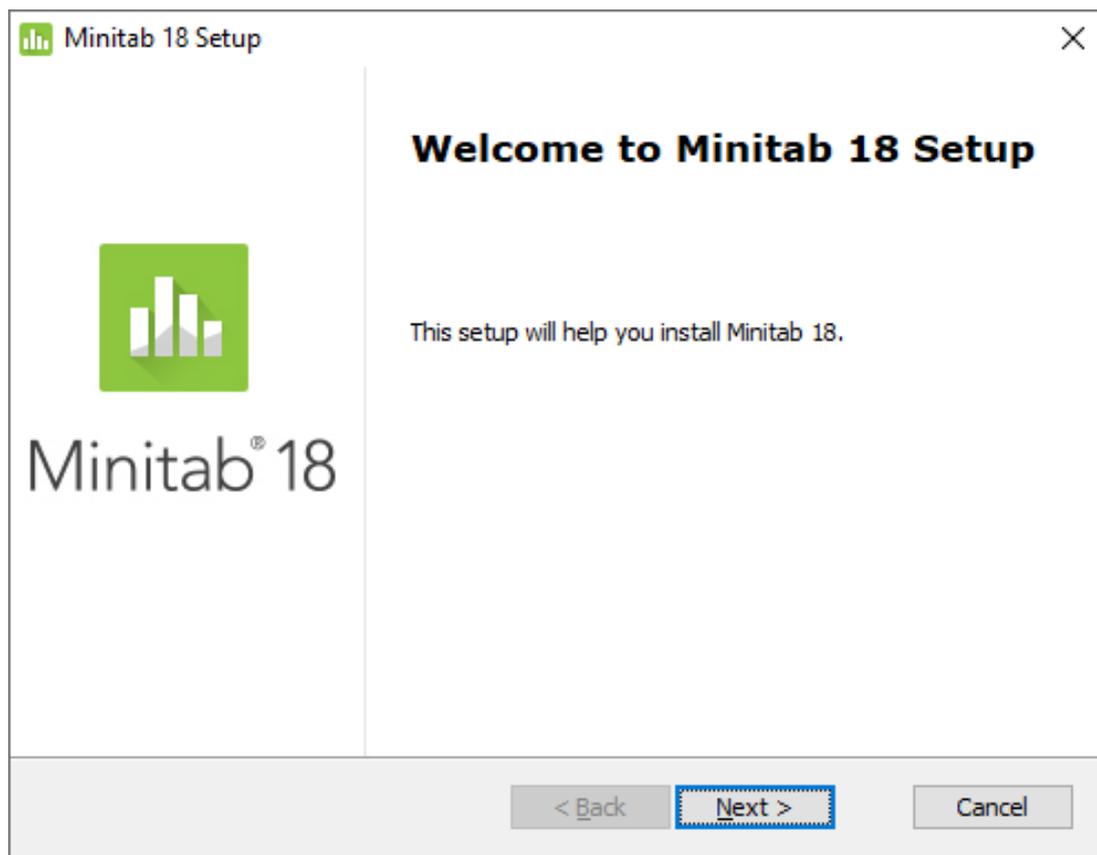
MINITAB is a powerful, easy-to-use, statistical software that provides a wide range of basic and advanced data analysis capabilities. It provides a user interface that makes statistical analysis more intuitive for all levels of users. Pull-down menus and dialog boxes give you easy prompts every step of the way.

MINITAB Installation

Step1: Download **Minitab**, from the <https://bit.ly/3oacUhP>

Start 2: Start Installation:

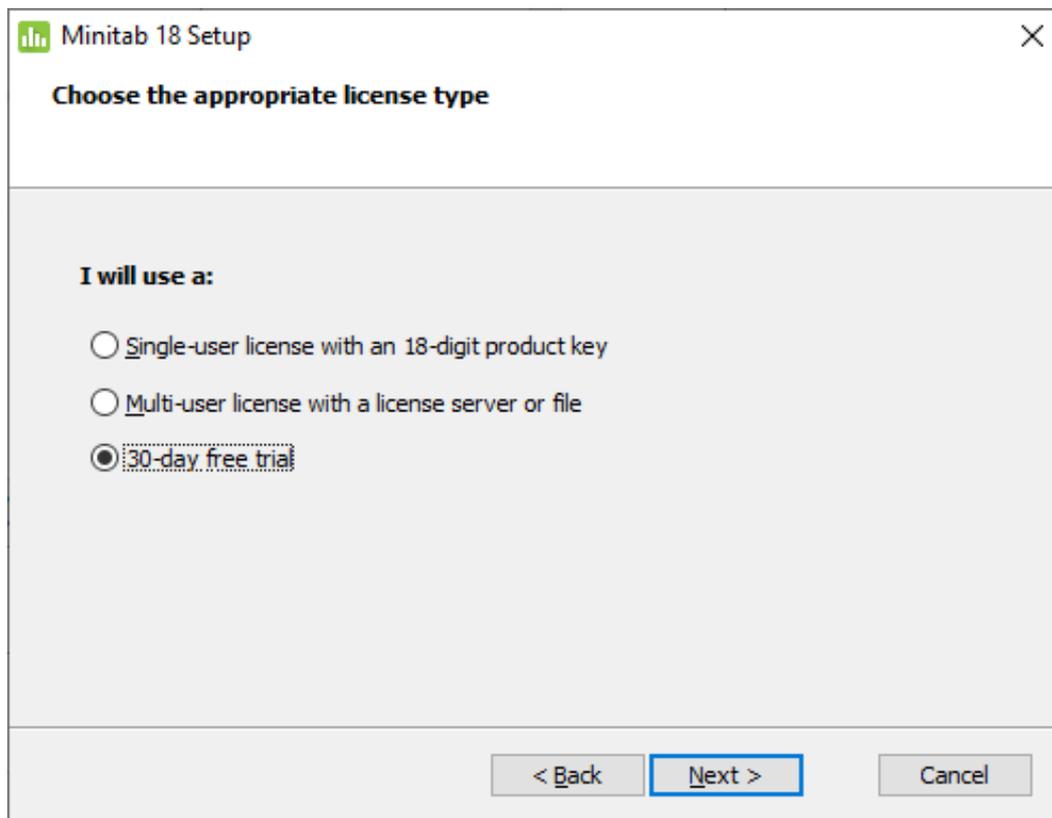
1. Launch the **Minitab18.exe** installation file downloaded to your computer.
2. Click **Next**.



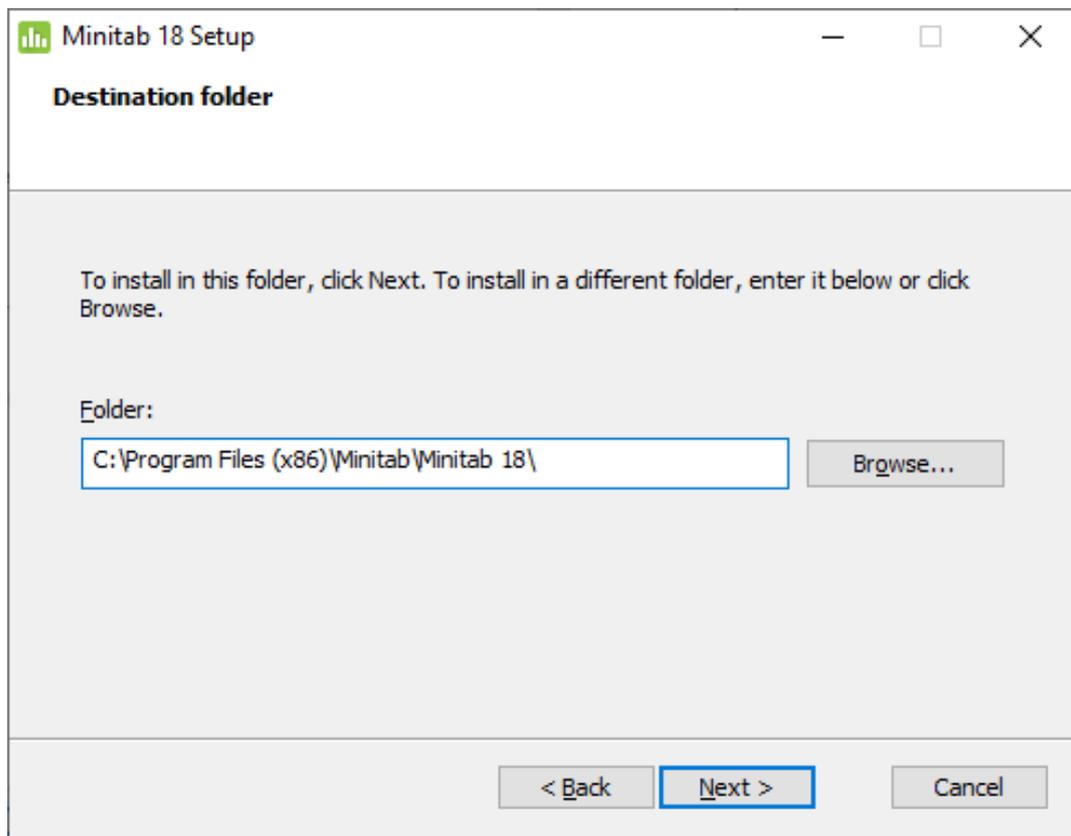
3. Read and accept the terms of the license agreement and click **Next**.



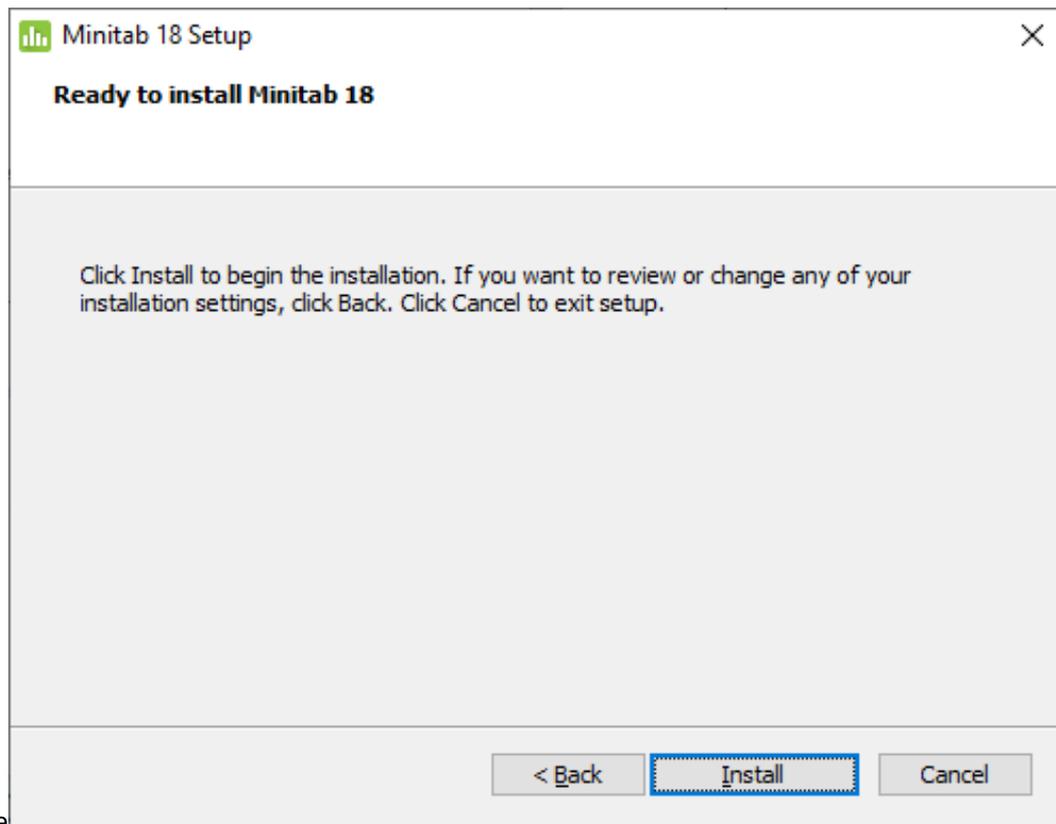
4. Since we are installing a trial version, check "30-day free trial" and click **Next**.



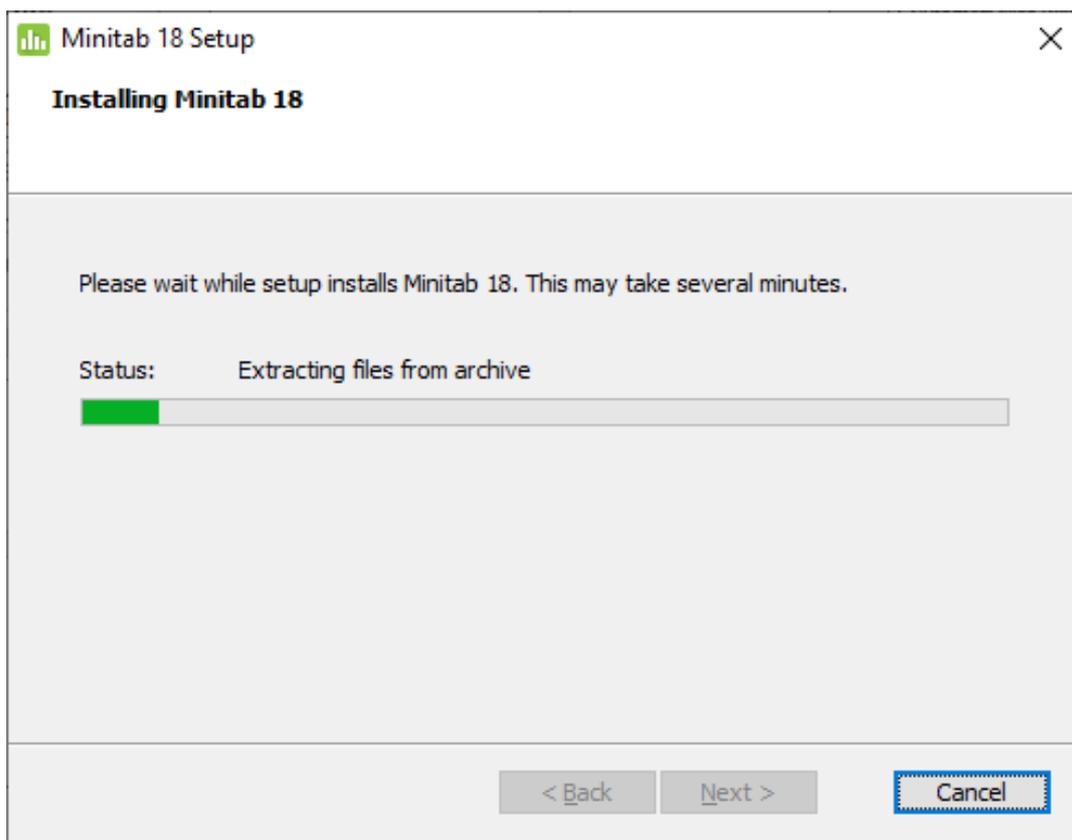
5. Leave the destination folder and click **Next**.



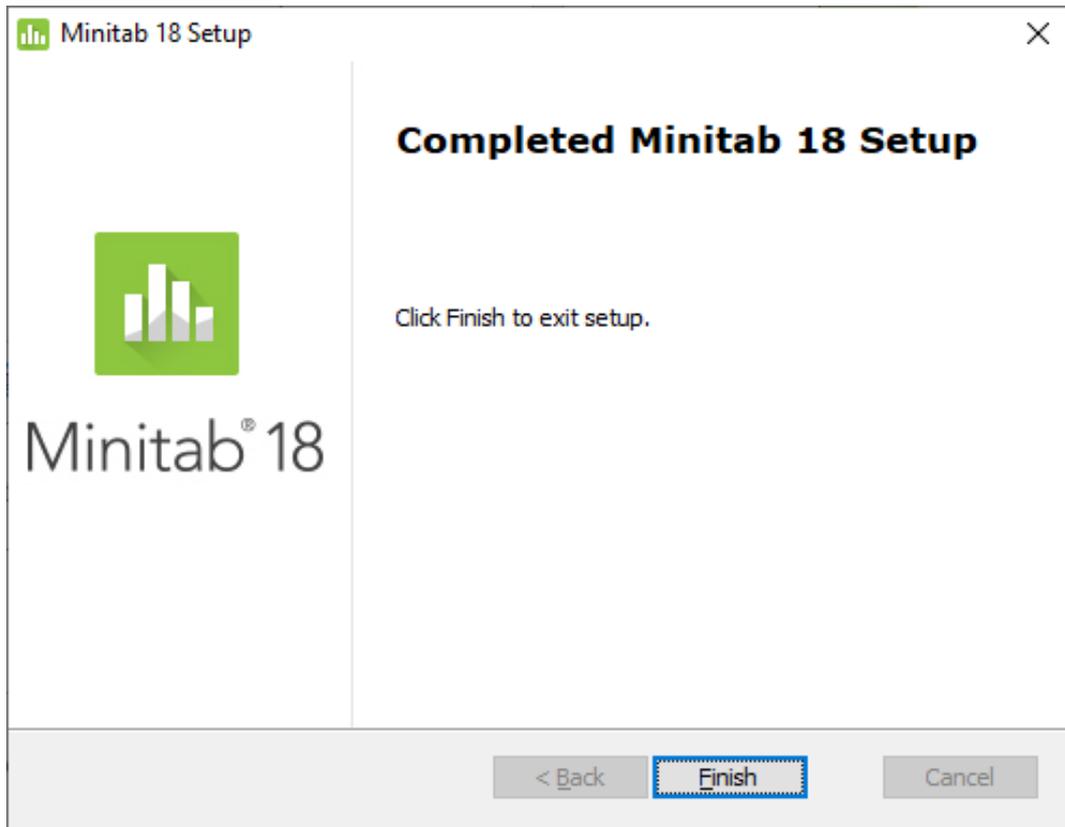
7. Click the **Install** button.



8. Minitab will start the installation. It will take a moment to install the software.



10. When ready, click the **Finish** button.

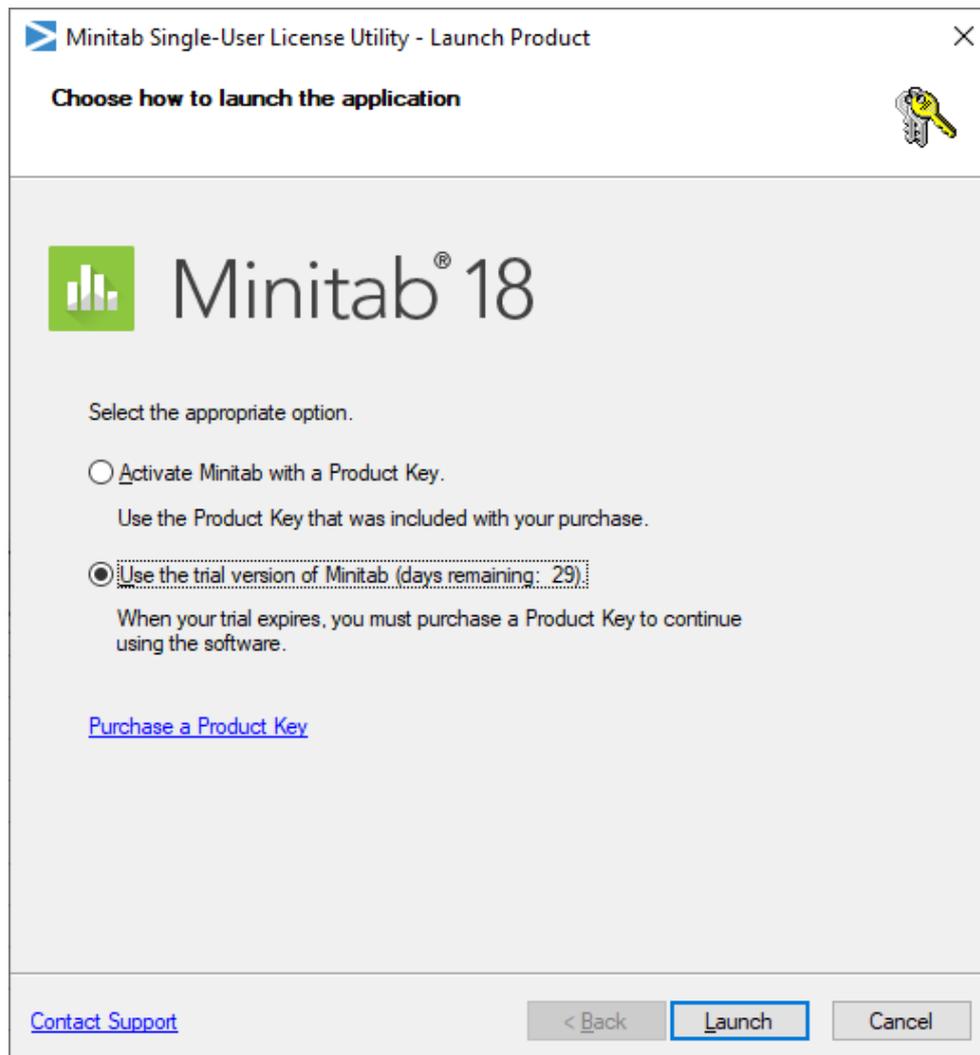


11. The installation will create the following icon on the desktop of your computer.



12. Double click the icon to open the Minitab software. Software will popup with a dialog box requesting your email and name. Enter your email and name to complete the registration.

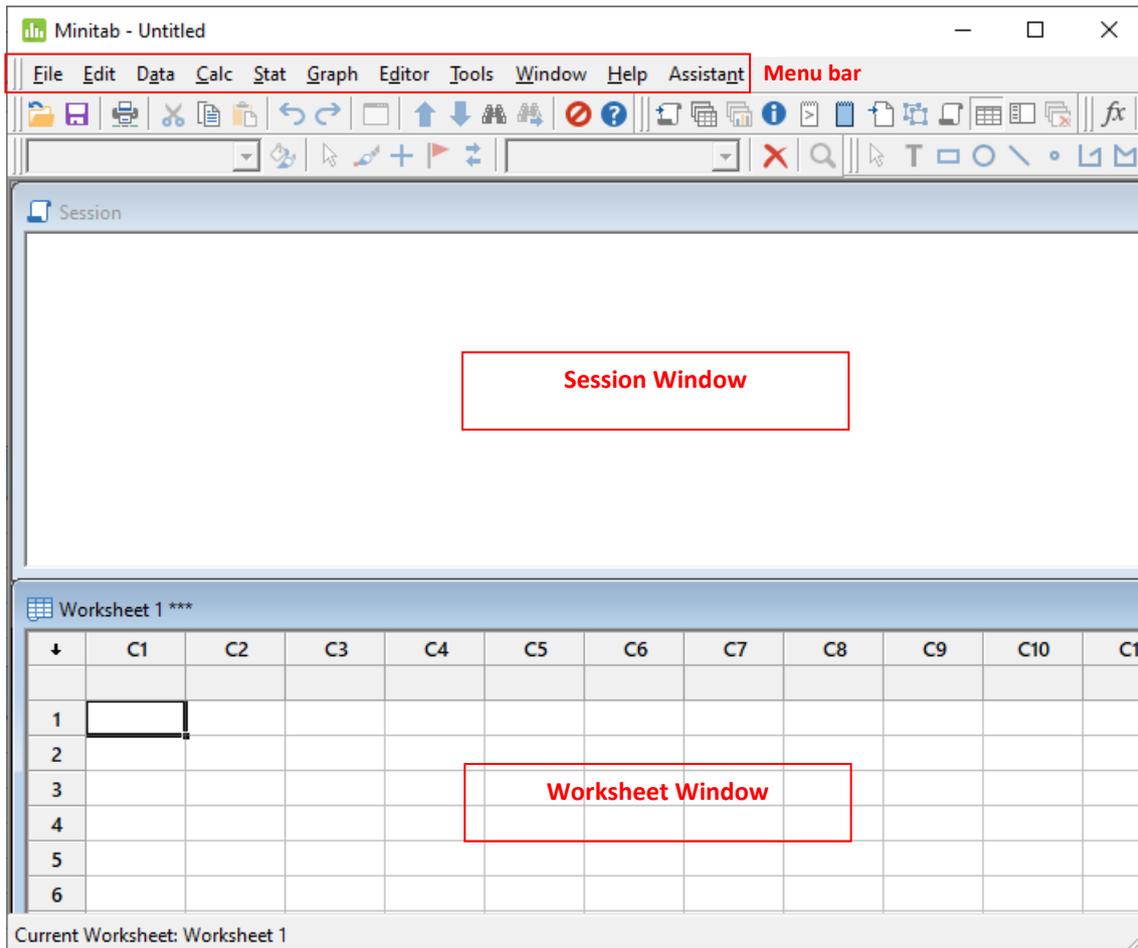
13. Then another dialog box appears with the following information. Click the “Use the trial version of Minitab” and click **Launch**



14. Now, all set to use Minitab software.

MINITAB Interface

There are several window types in MINITAB accessible from the Main menu Window option. The two widely used windows are **Worksheet** window and **Session** window.



Menu Bar

When you start a MINITAB session in your computer, the top strip of the window contains the main menus: **File**, **Edit**, **Data**, **Calc**, **Stat**, **Graph**, **Editor**, **Tools**, **Window**, **Help**, and **Assistant**.



Submenus

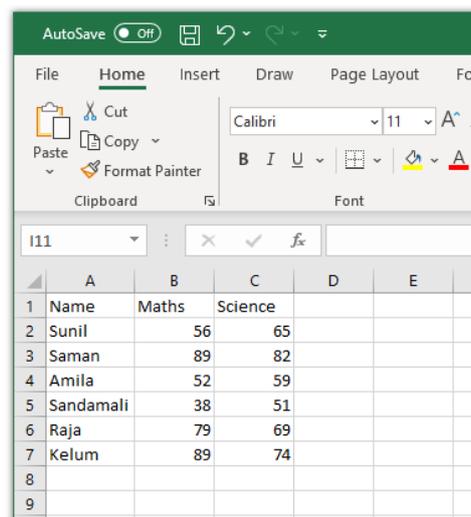
Within each menu, a set of menu options available. These menu options/items could further have submenu options which provide a set of commands that you can execute

Loading/Importing Data

Minitab files are organized as “projects”. Each project will contain all the data you use and the commands and analysis you perform on the data.

You can open a new, empty worksheet at any time. In this empty worksheet you can copy, paste, and type the data you need by simply working on the worksheet as you would on any spreadsheet.

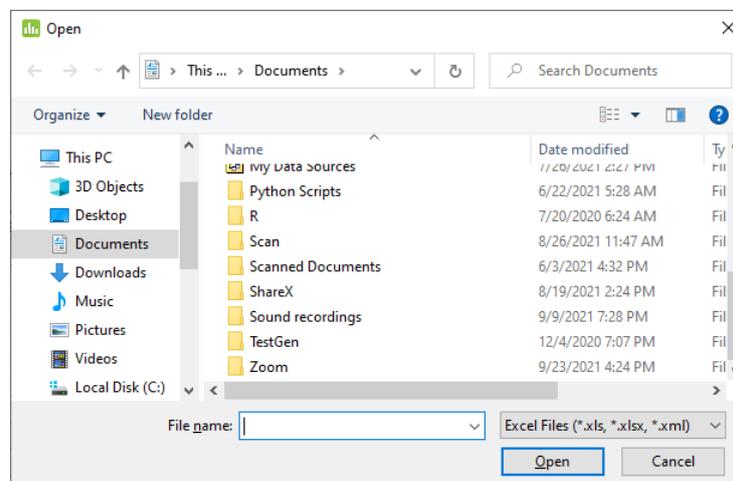
If your data is in an external file (eg. .txt or .xlsx, you will need to use **File -> Open...** to get the data into your worksheet. For example, suppose in the file Marks.xlsx we have the following data recorded,



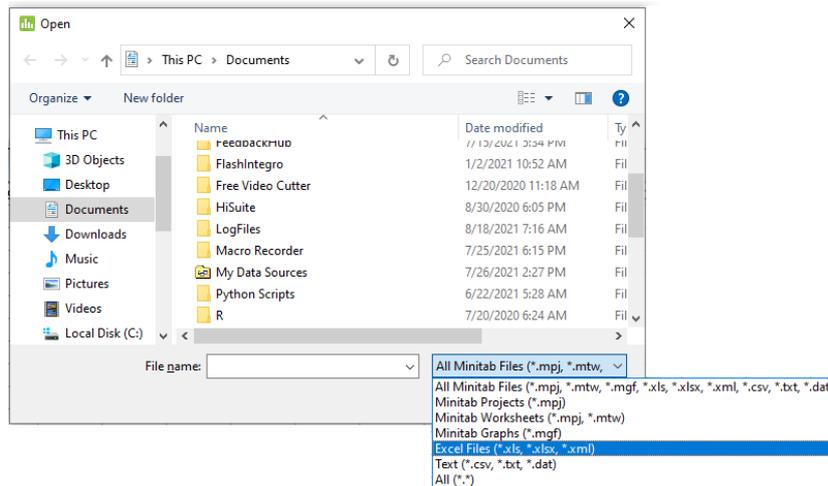
	A	B	C	D	E
1	Name	Maths	Science		
2	Sunil	56	65		
3	Saman	89	82		
4	Amila	52	59		
5	Sandamali	38	51		
6	Raja	79	69		
7	Kelum	89	74		
8					
9					

Each row corresponds to an observation, with the student name being the first entry, followed by the marks in the student’s Mathematics and Science courses.

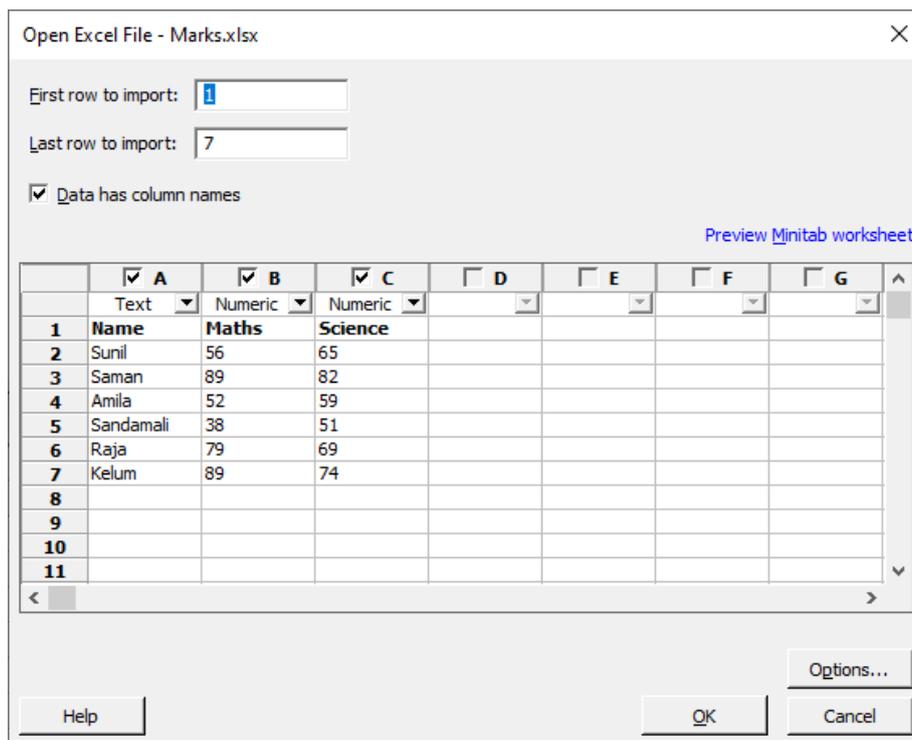
When data in such file like above, it is very easy to read in. After the command **File -> Open...**, we see the dialog box shown below.



Since your data is in .xlsx format, you will have to indicate that you want to see these in the Files of type box by selecting Excel files or perhaps All Files (see the below figure).

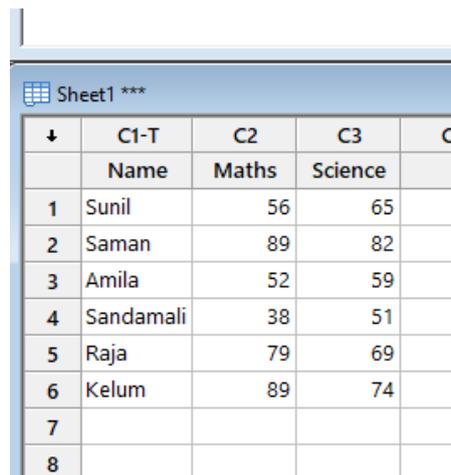
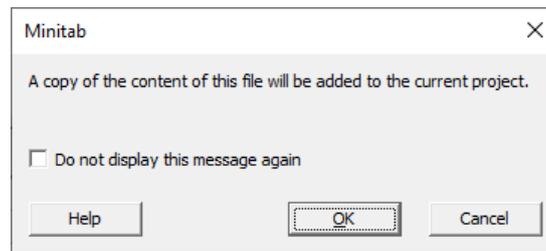


Clicking on **Marks.xlsx** results brings up the dialog box shown below. To indicate that the first row of the excel file contains column names, we need to check the “Data has column names” check box. Furthermore, the type of the data could be indicated by the drop-down list and columns to be imported are selected using the check boxes.



Once you are ready to import click “OK” button.

The following dialog box alerts you that only a copy of the excel file is imported to the Minitab worksheet. Click “OK” to confirm the operation.



	C1-T	C2	C3	C4
	Name	Maths	Science	
1	Sunil	56	65	
2	Saman	89	82	
3	Amila	52	59	
4	Sandamali	38	51	
5	Raja	79	69	
6	Kelum	89	74	
7				
8				

Note that this method is just only one out of several ways that you can load data to Minitab.

Working with Data

Once the data is imported to the worksheet you may proceed with the analysis you have planned on the dataset. This section will be covered during the upcoming workshop.

