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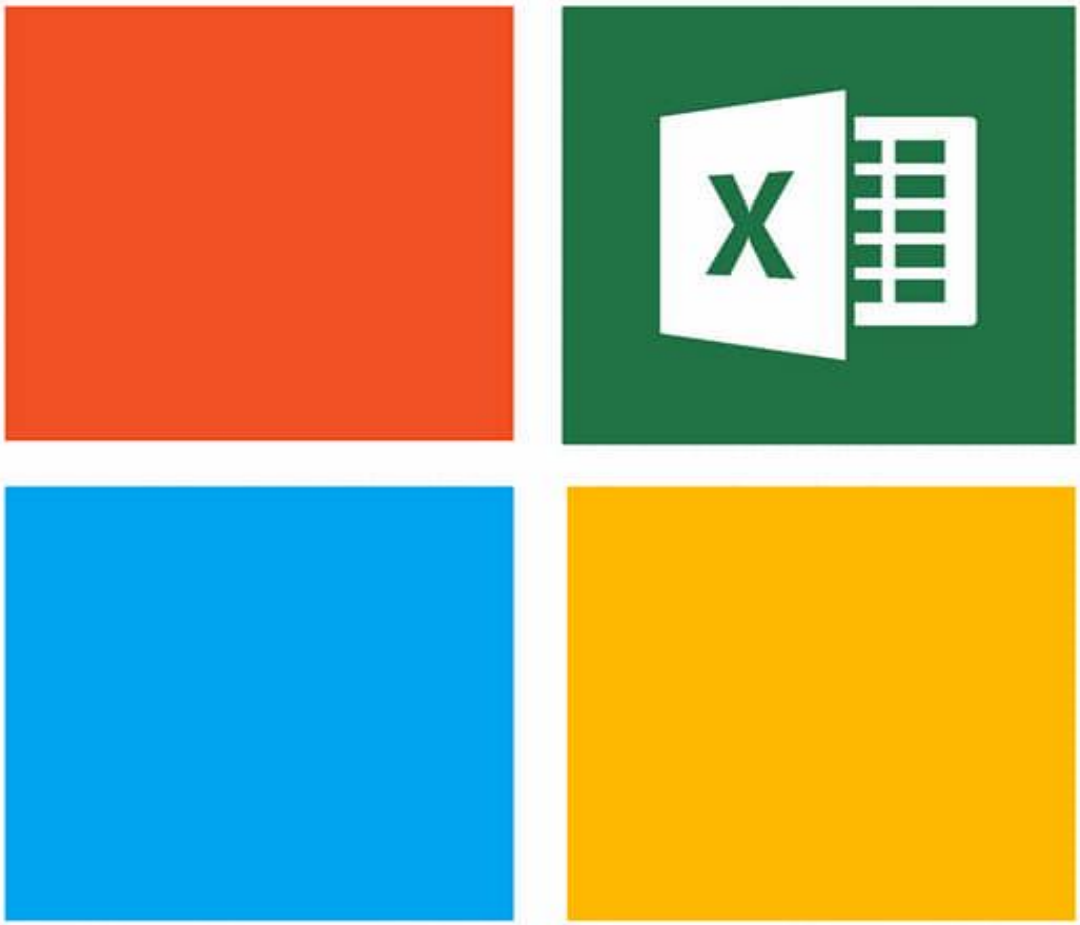
GEEKS FOR STUDENTS

COMPLETE COURSE BOOK

FUN WITH EXCEL



Learn more about Excel, fun with many more Excel features

A BOOK BY LEARNINCREATION

Course Objective –

The core objective of this e-book is to learn about Microsoft Excel. This course e-book is for students, professional or any individual who is willing to learn the advance concept of excel to use worksheet with ease and via more effective way for better outcomes or productive gain. Here we learn about formula, function, and concept of cell reference, inserting and formatting charts and much more.

Preface –

This is the first edition of book in your hands. This book provides an introduction about Microsoft Excel and its advance feature to start your professional career or can learn these concepts to work with worksheet via more ease. As with rapidly changing and updating world we were trying to describe every detail topic in this e-book. We have tries or best to make this e-book a complete product and it's gratifying to know that a lot of people agree with our approach. *Dear reader, thank you very much for your love and faith. Your association makes us feel proud.*

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Before You Start –

In this course of Advance Microsoft Excel, we assume you are already little familiar about excel, if you are not, don't worry we cover basic concept of Microsoft Excel. This course is to learn advance excel concept and using formula and function to do perform task with more ease. We designed this course for student and learner or any individual who willing to learn Microsoft Excel for career enhancement.

Table of Content –

Introduction–

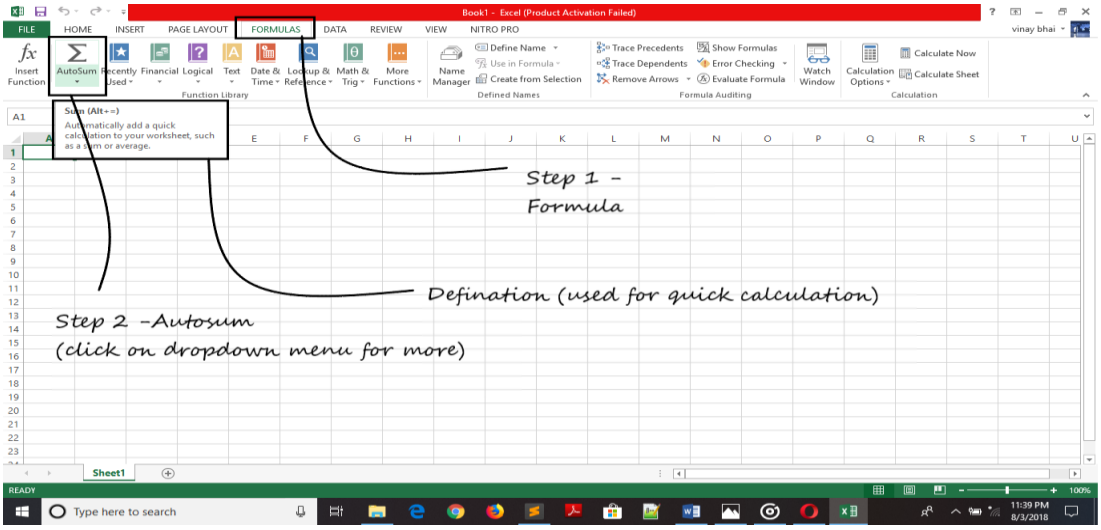
As, you know Excel is a graphical interface spreadsheet program used for analysis data or records. With increase of time and technology, excel is used widely in every sector. Today, excel is widely used in education or in business sector.

In this course you will learn to use excel in a smarter way to perform daily task in easy method. Here, in this course you will learn about Formulas, Function and Cell reference. You learn how to create a formula for your database or record to maintain or analysis data more efficiently. You learn about inserting a function and more about cell reference.

This is advance course of excel for daily uses, which required a basic knowledge of excel. If you already knew about excel, then you can go ahead with this advance course, and if you are new, then we recommend you to first learn the basic skills of excel and then go through this course.

We already discussed lot about excel basic skills in our Excel for Beginner's course. This is specially designed for new learner, and in this course we learn more about excel to perform daily task in easy way. So let's get start with Advance Excel Learning.

AUTOSUM



Auto sum is a predefined command of adding your data. In order to used it just select the cell where you want the total of your data and then select the cell range. Group of cell are highlighted and on pressing Enter key it will show you a result.

Mathematical Operator –

In math's you will learn about Mathematical Operator like –

- Addition (+)
- Subtraction (-)
- Multiplication (*)
- Division (/)
- Exponent (^) etc.

In excel we use the same but sign of operation will change.

Ordering of Operation –

In excel there is an order of operation. There is a sequence of operation excel will follow while calculating a data.

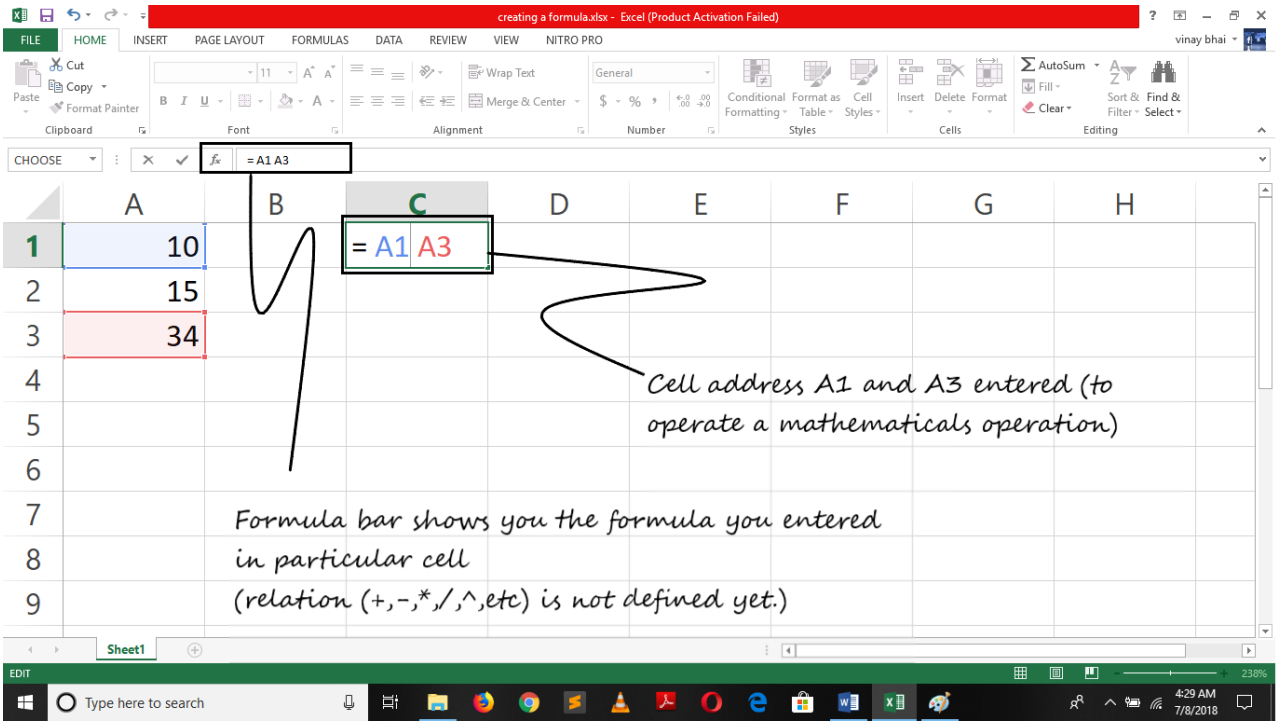
1. First it calculate the data enclosed in Parentheses or Brackets.
2. After Parentheses, it will calculate a data presents with exponent.
3. Then it will do Multiplication or Division (from left to right which comes first).
4. After this, it will do Addition or Subtraction again from left to right.
5. Finally result will show.

What is Formula?

What you think when I say formula. In terms of math, word "formula" reminds you the math's formula you used in your math's class like (a + b)2 = a2 + b2 + c2 or in simple terms a + b = c.

Here, if you notice formula defines the relation between these values. In formula a + b = c, value of relation of a & b originate the value of c. So we can say that - formula describe the relation among entries or data and helps to get a results. Here instruction of addition (a + b) is a relation of mathematical operation.

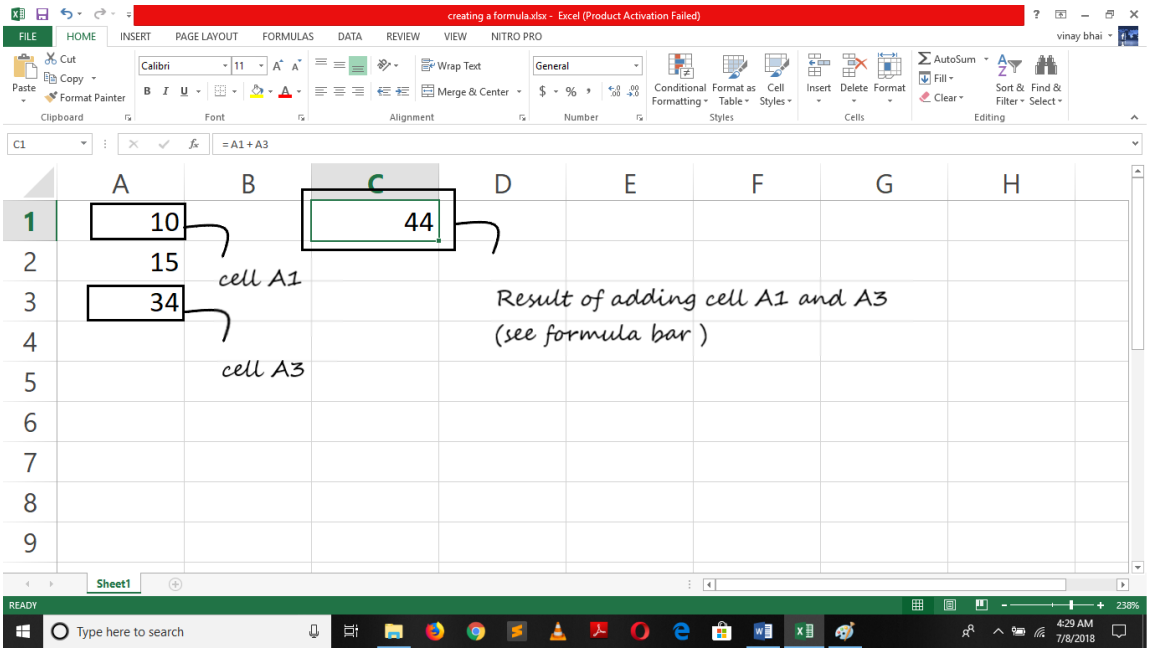
Similarly, in excel we use formula to describe a relationship between cells with the help of mathematical operation like addition, subtraction, multiplication and division and much more. Since there is many cells in worksheet so we used cell address to defined a relationship. Like A1, AA2, CCC12 etc. (example of cell address)



So, formula is defined as – An entry of cell address and mathematical operator in a sequence so we can get a new value which is generated from operating given value.
Formula for adding a value of cells B15 and C15 is –

=B15 + C15 (here, two cell address are written down with addition sign (mathematical operation).)
“=” is placed before cell address. “=” equal sign indicated the cells that we are going to write a formula and its need to calculated the data of given cells address. Unless data will treated as entry and not get executed.

Formula which you entered in cells is also can see in formula bar. On entering a formula its generates the result, so if a new person want to know that which formula is enter in this cell so, on selecting the cell the formula can be seen in formula bar.



Creating Formula

Creating a formula is like creating a relationship and it is as simple as creating relationship with your girl or boyfriend, just kidding. It's not that much hard. Actually creating a formula means build a relationship between two or more cells with the help of Mathematical Operator. There are some point you need to remember while creating a formula –

1. Equal sign (=) –

   Always start writing formula with = sign, it indicate to excel that user is writing a formula, unless it will treated as text.

2. Cell address –

   After inserting = sign, next you need to insert the cell address in order to establish a relation with them. So whenever you manipulate the relevant cell data, the result will also self-updated.

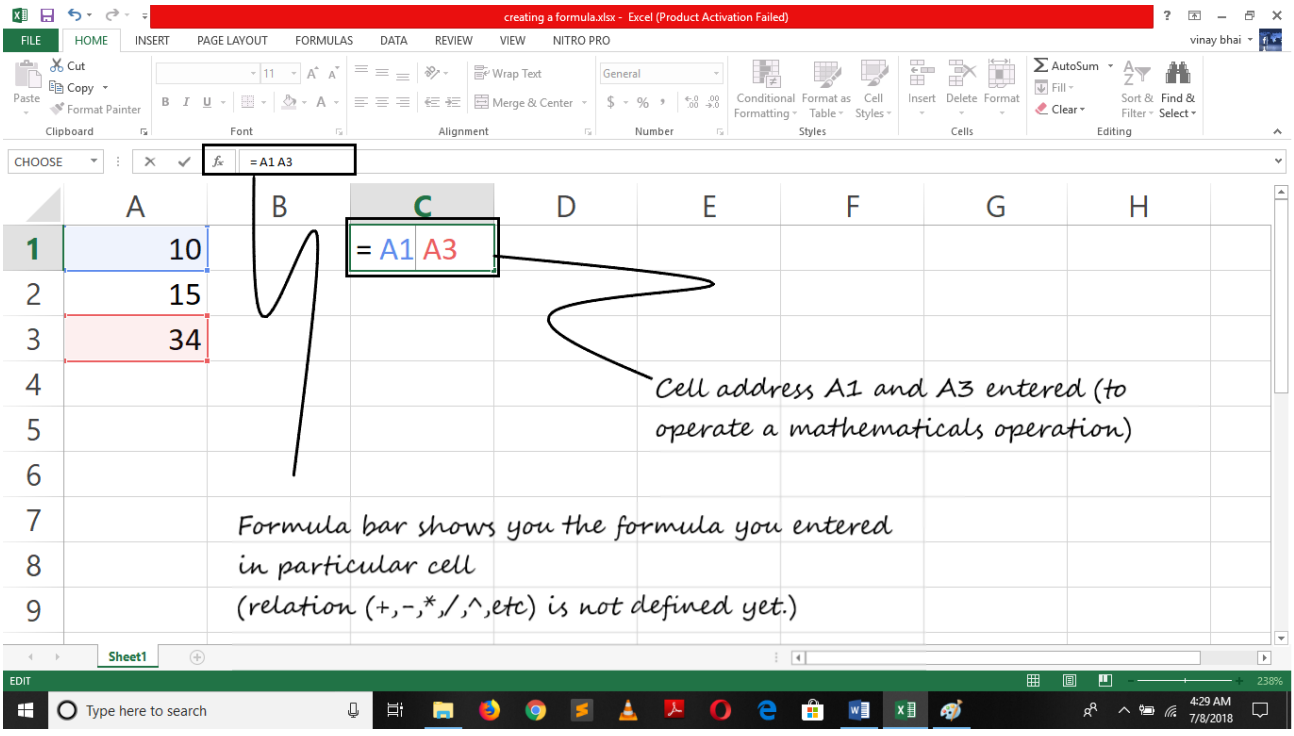
3. Operator –

   Operator tells that which kind of relationship you are going to build between selected cells. You want to add them, subtract them, multiplies them or whatever you want.

Once you remember these key-point. We will learn to create a formula.
Let's assume I want to add the data of cell A1 with cell A3 (not cell A2) and want to show an outcome in cell C1. So what I will do.

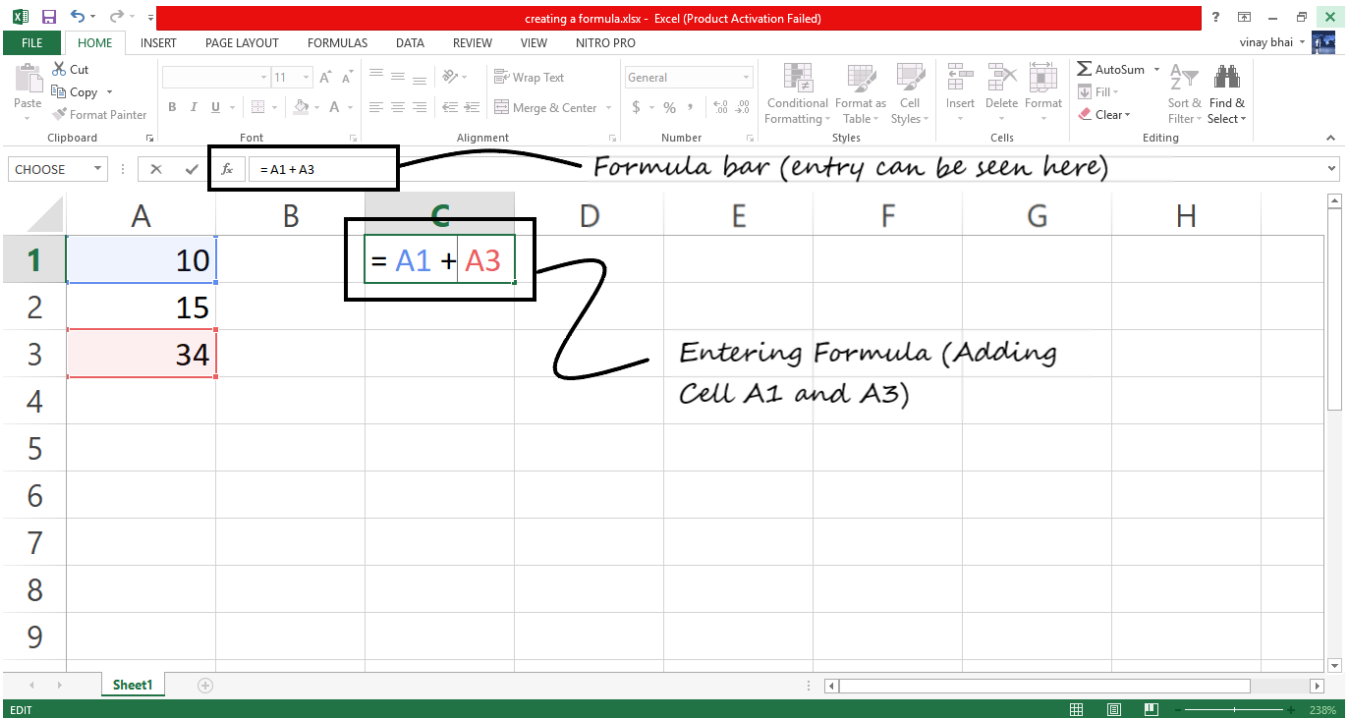
First enter some data in cells A1, A2, A3. We are not going to add A2 cell but entering a data in A2 helps in our next practice assignment.
Here, I will enter 10 in cell A1, 15 in cell A2 and 34 in cell A3. Now, I want to add cell A1 with A3, and result will show in cell C1 (you can choose any cell to show an outcome like A4 or A5 anyone.)
So I will select cell C1, now it's an active cell in worksheet, and now we enter a formula in it.

First we insert = sign, then we mention cell address. = A1 A3

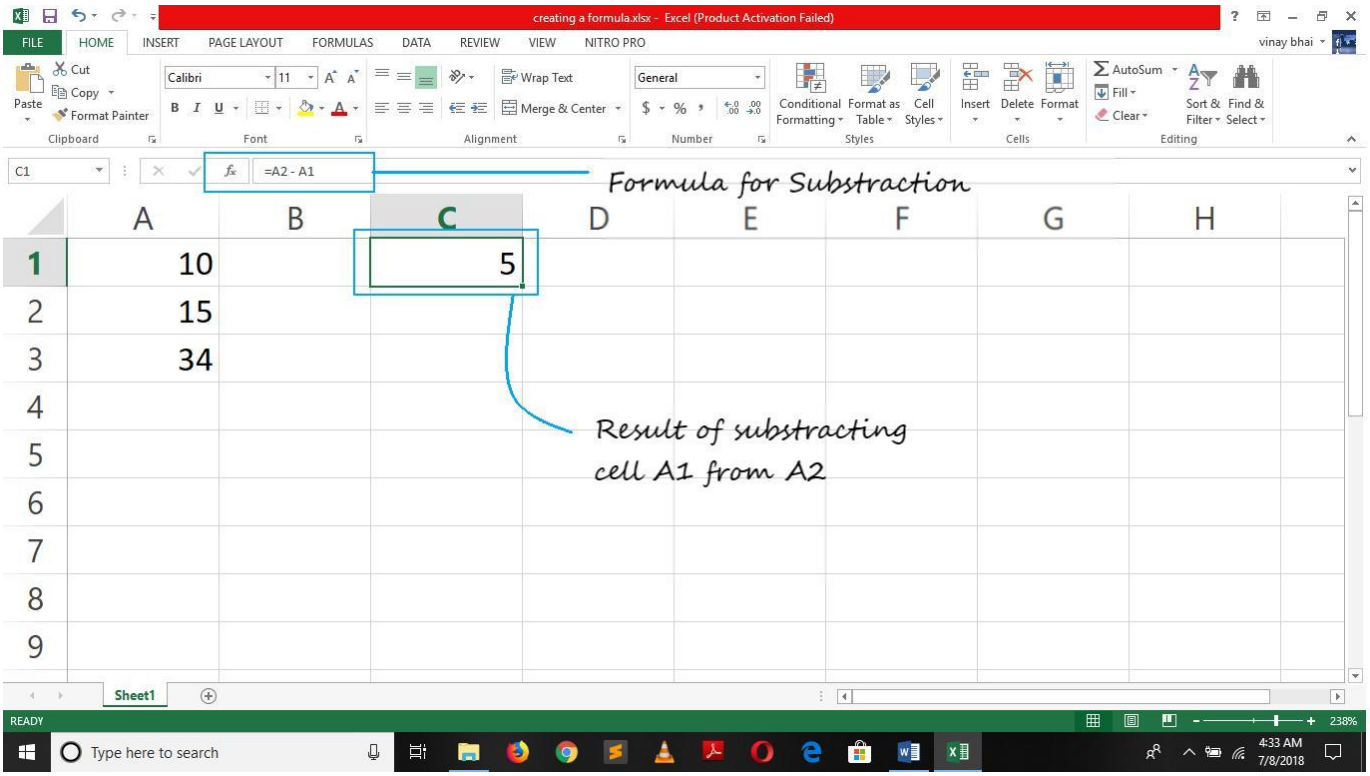


But, where is the operator? We want to establish a relation so we need a mathematical operator. Here we want to add cells so Addition operator will used. = A1 + A3

On hitting Enter Key, the result will show in C1 cell i.e 44. Select the cell C1 and you will see the formula you inserted in formula bar.



Similarly, you can create another formula to subtract cell A1 from cell A2.



What is Function?

Function are actually a formula which are already defined in excel and you can used them directly, or you can say that they are predefined formula. One things you need to remember that there is no need to defining mathematical operation, you just need to enter the range of cell or cell address with function name having a “=” sign.

Parts of Function?

Now after knowing function, next we will learn how to use them. Inserting a function is very easy, because it’s a predefined so you just need to apply them as per requirement. Before inserting a function in a worksheet first learn about parts of function.

A function has a 3 parts –

- Function name –

  A name of function which you are going to define instead of mathematical operation, like **SUM, SUB, AVERAGE** etc.

- Arguments –

  Cell address or cell range which relation you need to calculate, like (A1, AA1, CCC3 etc.).

- Parentheses –

  Parentheses is a bracket () to enclose the arguments separated with commas.

  So on adding these three parts you will get a function like = SUM (A1,A2,A3) or SUM(A1:A10)

First functions add the value of cell address A1, A2 and A3. Commas separate the cell address and help to get a result. But when you need to add more than 3 or 4 cells then it's a long method to type every cells address and separated it with comma.
Here ":" colon will help when you need to mention a cell range like in second function.

Similarly, you can applying more function in your worksheet like –
AVERAGE (), MAX (), MIN (), SUB (), MEDIAN () etc.

Inserting Function?

To use function you can directly applying it to your desired cells in a worksheet or you can insert it via help of function library. Follow these simple steps to insert function from libraries.

- Select the cell to insert the function on it.
- Go to the Formula tab and click on it.
- Here you will see a Function library section.
- Under this section you will see a function are categorized in a group.
- On click on drop down menu a list of function will open you can select any of your choice.

Function Categories –

There are lot many inbuilt or predefined function in an Excel. So it's a good example to categorized them all in a group. So similar function are grouping under same group like, Financial function – Group of function which helps us to add the financial function. For example –

- ACCRINT
- ACCRINTM
- DURATOIN
- DSC etc.

- Logical function –

Group of function which helps us to add some logical function. For example –

- AND
- FALSE
- IF
- OR
- NOT etc.

- Date & time –

Group of function which helps us to add the time function. For example –

- DAYS
- DATE
- HOUR
- MINUTE
- SECOND
- MONTH
- NOW etc.

- Math & Trig –

Group of function which helps us to add the mathematical operation and trigonometry function. For example –

- SUM
- SUMIF
- ODD
- EVEN
- SUBTOTAL
- PRODUCT etc.

- Lookup & Reference –

Group of function which helps us to add the reference function. For example –

- ADDRESS
- ROW
- COLUMN
- HYPERLINK
- VLOOKUP

- Mostly used –

Group of function which helps us add the mostly used function in worksheet.

Function or Formula –

Sometimes, or in someplace it's good to used function instead of formula. A function is already predefined for us and also makes your task easy.

Read this given situation –

Let's assume you need to calculate a total sum, from cell A1 to cell A15. You will create formula for it

= A1 + A2 + A3 + A4 + ……. + A14 + A15 , so it is a time taken and long process, on other hand you can complete this task with the help of function.

Let see how –
= SUM (A1:A15)

Look, function will make our work easy and also it is a short method. Well here we are considering only 15 cells, think about adding more than 100 cells, so it is good to uses function instead of formula, in order to save time and work more efficiently and smartly.

What is Cell Reference?

As you know, each cell in worksheet have a unique cell address, this is a combination of name of column and row which create that cell by intersecting. This cell address or cell reference is used to create a formula. Benefits of using cell reference in a formula is that on manipulating a data in a referenced cell the result is update itself, you don't need to write a formula again and again.

Types of Cell Reference –

Let's discuss about the types of cell reference. There are three types of cell reference named as –

- Relative cell reference –
- Absolute cell reference –
- Mixed cell reference –

Why you should learn about Formula and Function?

Before getting started with Advance excel, you should need to know why you should learn about formula and function. What's a need of formula or function in excel.

Excel is a spreadsheet program, allows you to enter, edit, maintain and analysis a data. And to maintain and analysis a data it's important to edit your data. The best part of excel is that it's allow you to create or insert the formula or function respectively. It's help to create a new mathematical formula and execute the pre-defined one.

Imagine a situation that, you have a large data of company annual sales, and at the end of the data there is a column of total annual sales which is a total sum of twelve month sales.

Now, at the time of rechecking, data analyzer found that there is a mistake in sales data in the month of March, July and September. Since Total Annual Sales is sum of all twelve month it means Annual sales is wrong.

Now, an employ who prepared sales data is need to correct it. If he manually calculated each sales and then prepared an annual sales reports, then it's a time taken process and also it's not a right method to work with excel.

On the other hand, if he knows about formula and function then he just need to change the entry and excel itself calculated the month sales and finally shows the Annual sales in column of total annual sales, and that's a right use of excel.

Unless you didn't work with formula and function while making a big sales or purchase reports you will just use a text editor to input data not Excel spreadsheet.

Mixed cell reference –

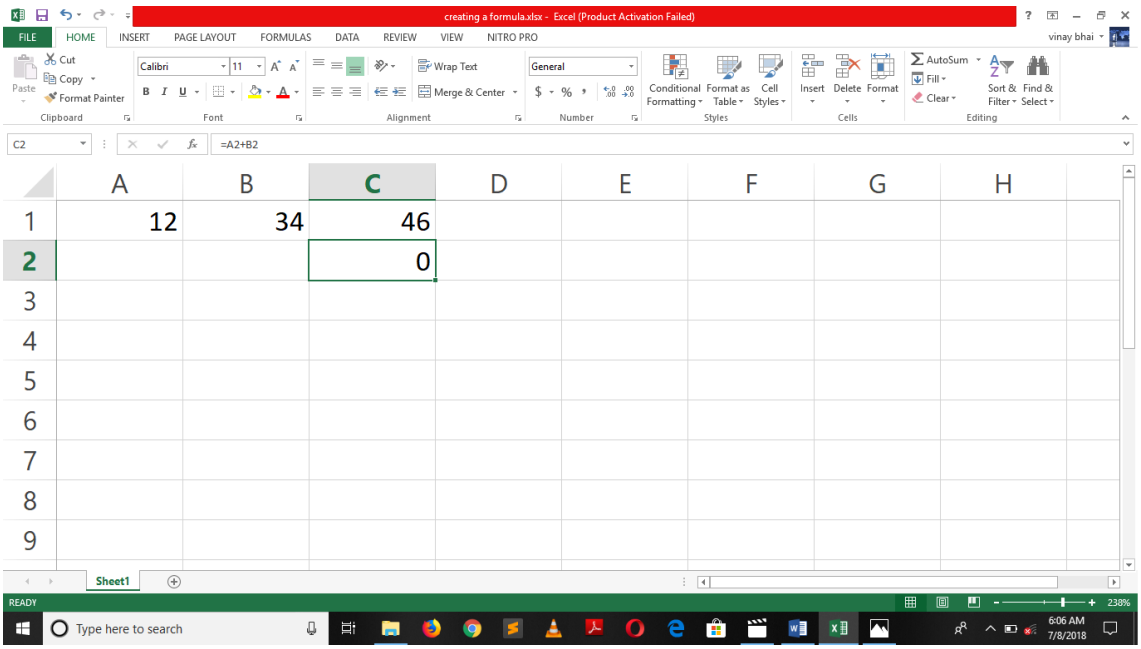
Mixed cell reference is a mixture of both relative and absolute cell reference. Here is mixed cell reference, either row is fixed and column is free or column is fixed and row is free.
Like in case of,
= $A5 + B$1

Here in this formula, column A is fixed while row 5 will be changed when we copied formula. Similarly, row 1 is fixed while column B is free and can be changed by copying a formula from one place to another.

Relative Cell Reference –

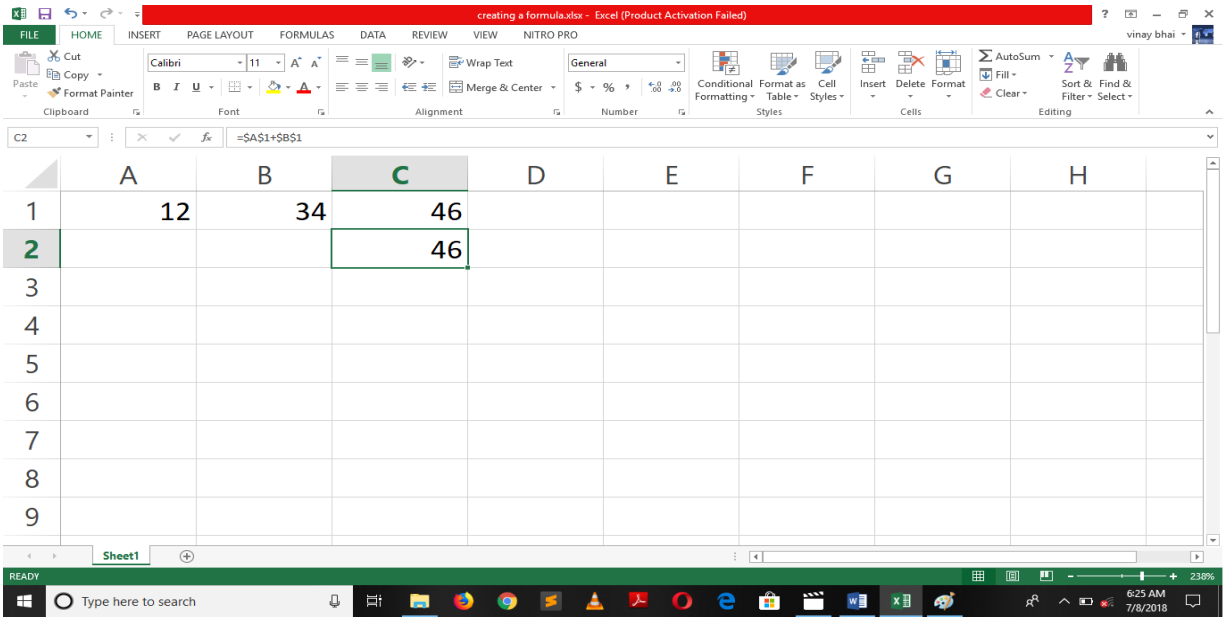
When you created formula with the cell address or cell names likes A1 or D3 etc. cell reference is known as Relative cell reference, because on copying formula from one place to another, formula will change with reference cell new address.

For example, you want to add cell A1 and B1 and enter formula "=A1+B1" in cell C1. Now, on copied formula in cell C2, excel change the cell address also in formula as A2 and B2. Formula will change to the new cell address.



Absolute Cell Reference –

Absolute cell reference is differing from first one, here cell reference is not change when you moved or copied a formula from its original place. Or you can say that absolute cell reference has fixed row and column.

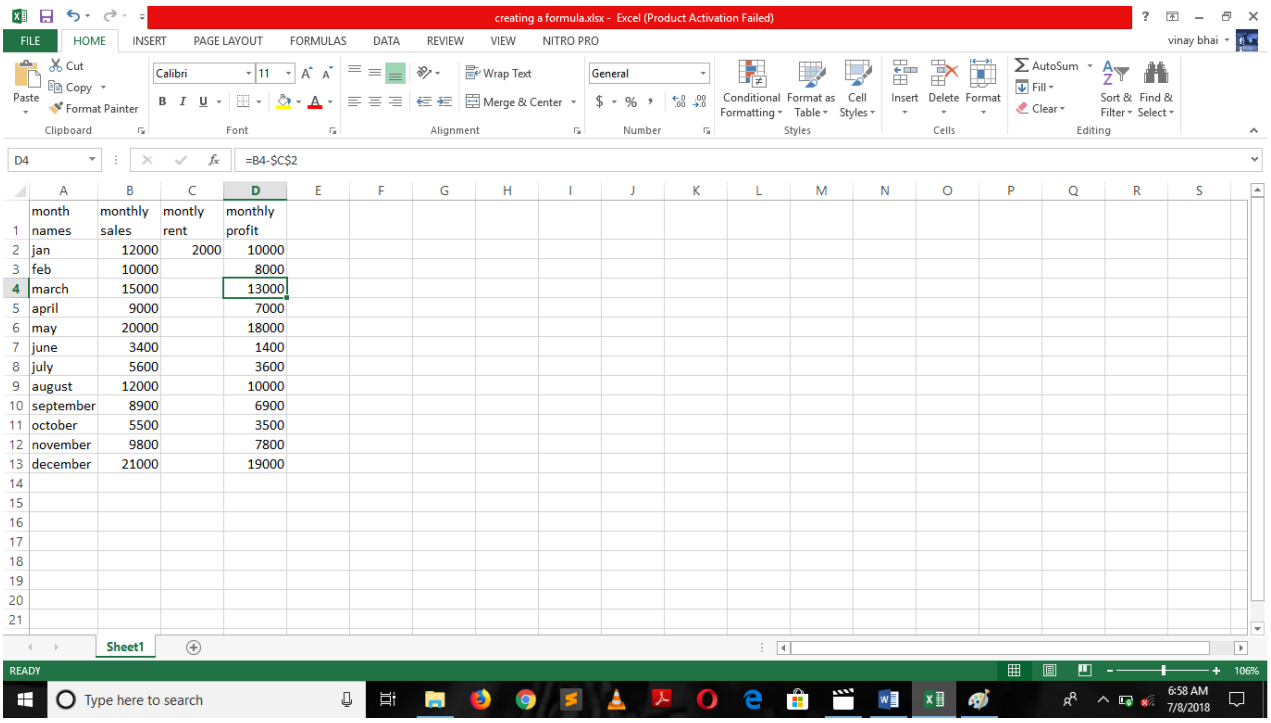


For this, we use a “$” sign to fixed the row or column. Here is above example we fix the row and column in cell reference, that why when you copied a formula from one place to another cell reference didn’t change.

=A1 + B1

Dollar “$” sign before column and row name fixed it. While in below image we only fixed a column not row so formula will change while copied.

See image -



	A	B	C	D
1	month names	monthly sales	montly rent	monthly profit
2	jan	12000	2000	10000
3	feb	10000		8000
4	march	15000		13000
5	april	9000		7000
6	may	20000		18000
7	june	3400		1400
8	july	5600		3600
9	august	12000		10000
10	september	8900		6900
11	october	5500		3500
12	november	9800		7800
13	december	21000		19000

What’s a need to fix a cell address in formula?

Absolute cell reference is used to fix a cell reference, it’s preventing us to rewrite a same cell reference multiple times and hence save our time. Imagine a condition, where you need to make a report on a metal with changing time and pressure but at constant temperature. You create a column of Metal name, Time, Pressure, Temperature and Observation.

At the time of calculation, when you enter a formula in Observation column it's good to fixed the cell reference with the help of $ sign then writing it every time because it has a constant value.

Imagine another condition,

You are owner of Restaurant, you need to pay monthly rent to shop owner. On making a monthly profit report you need to reduce rent from monthly sales. Here rent is fixed so instead of writing it every time in formula while making a monthly report you can use absolute cell reference to reduce your efforts.

Focus on Formula bar in images.

Do you know?

What's a right method of learning?

Making your own notes makes things easier to understand and memorize. Well, in next lesson you will go to learn inserting Charts in worksheet.

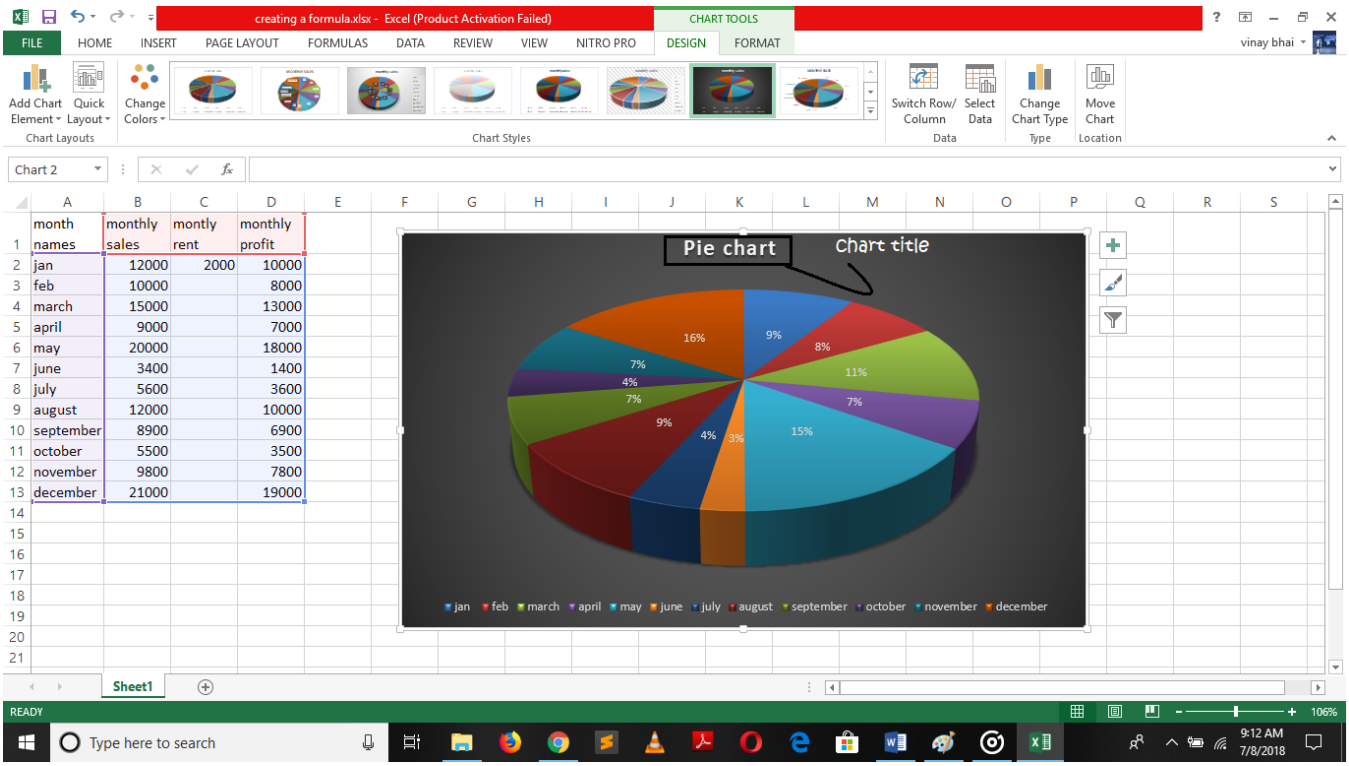
Charts –

Charts are a graphical method to represent the report or data to make it easier to understand. Charts can be used be –

1. Presentation
2. Reports
3. Articles

You can insert charts in your worksheet of your choice. Follow these steps to insert charts –

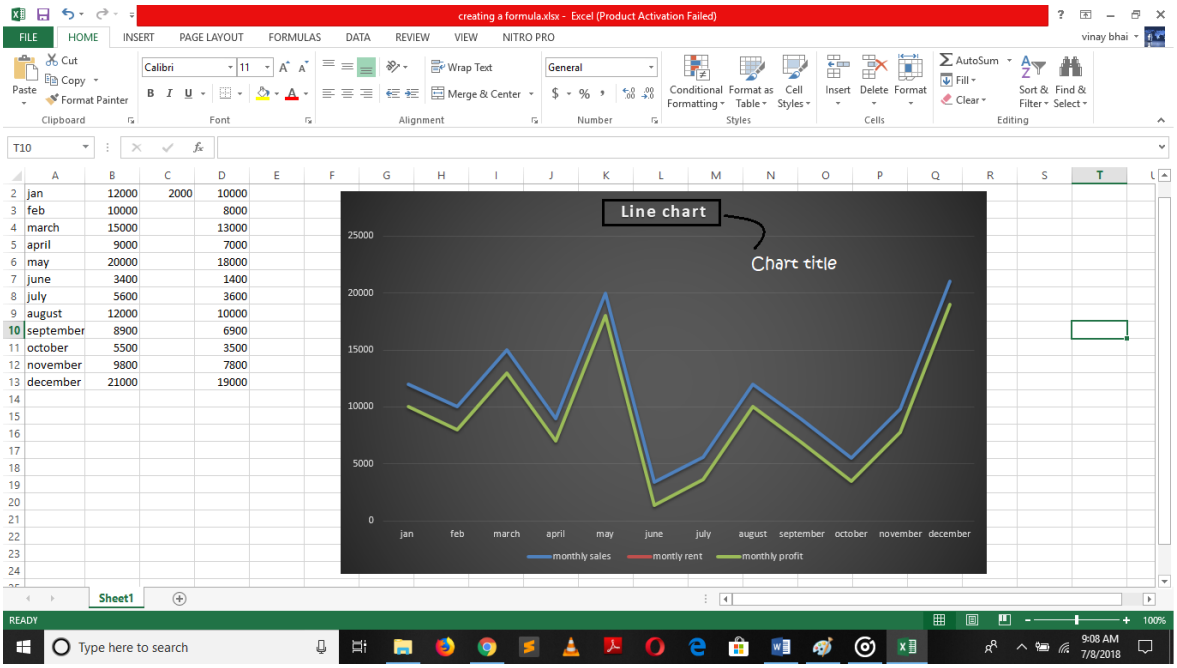
1. Go to the Insert tab.
2. Under insert tab menu you will see a Chart section.
3. Now choose any chart of your choice.
4. Selected chart will be appearing in your workbook.



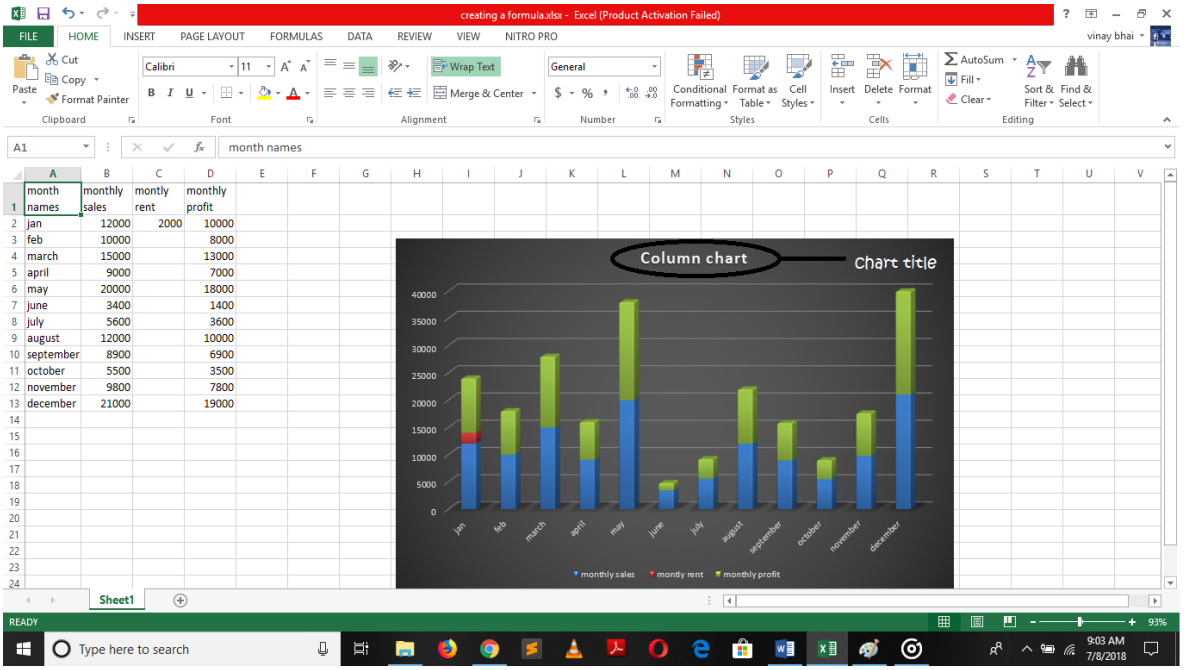
Types of charts –

Excel comes with variety of inbuilt charts like –

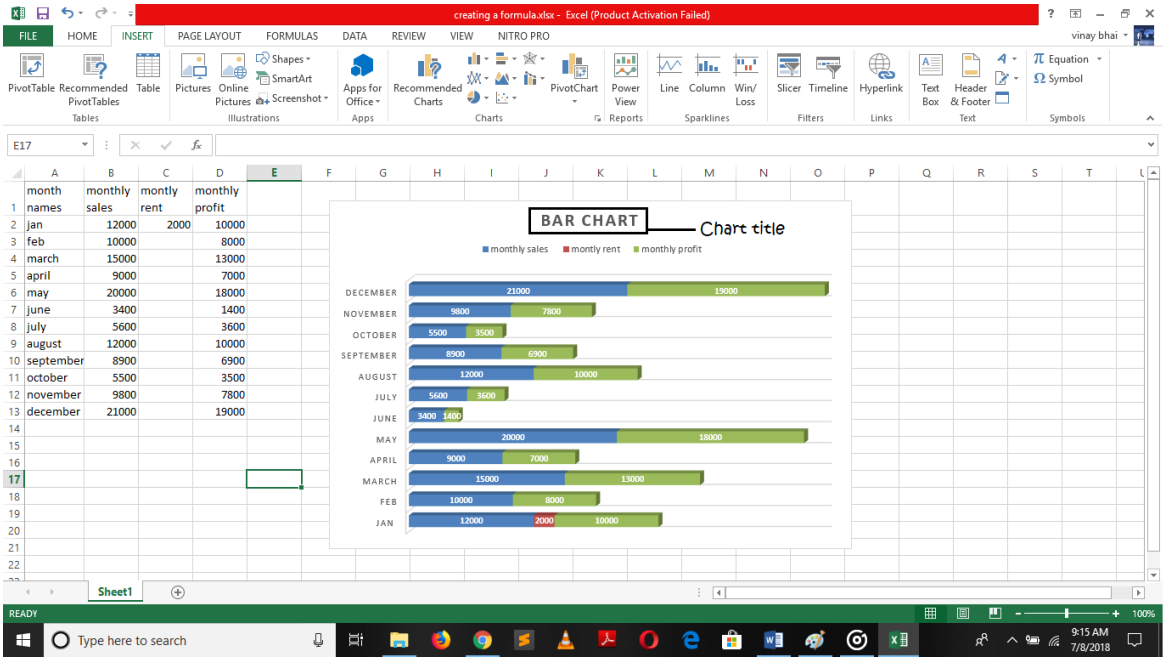
- Line chart



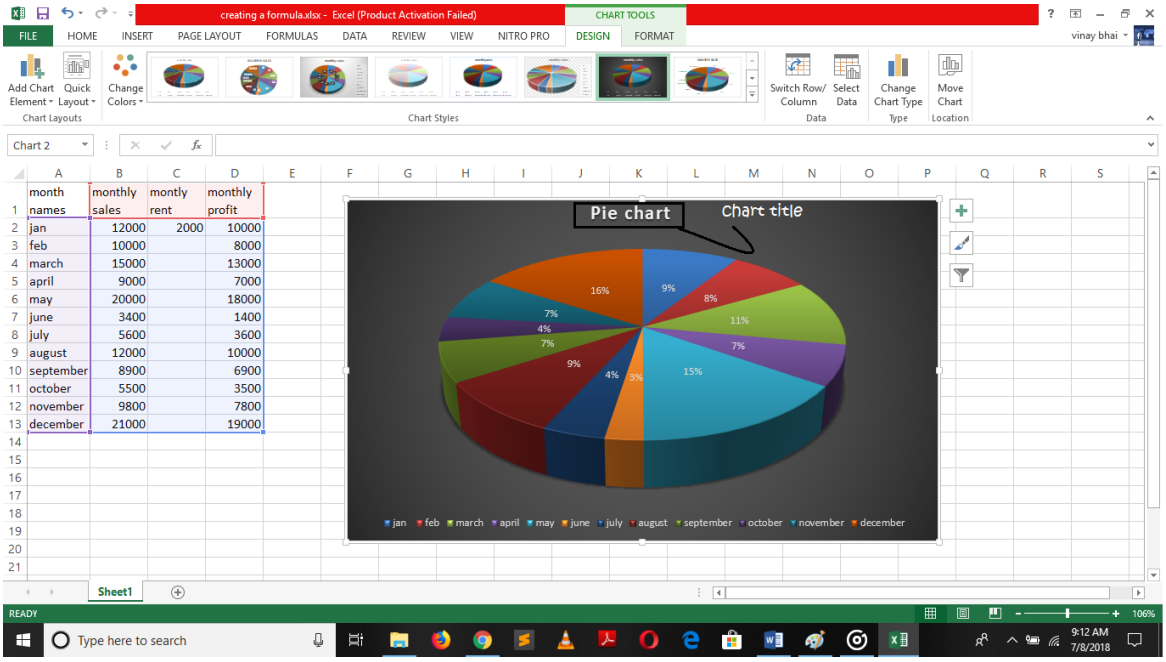
- Column charts



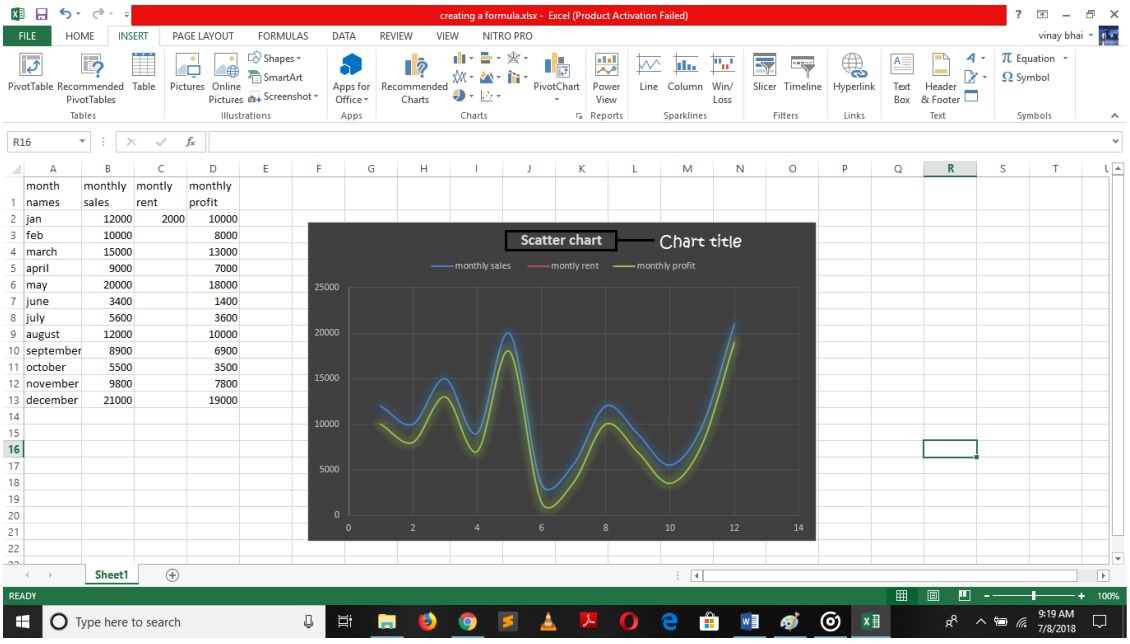
- Bar charts



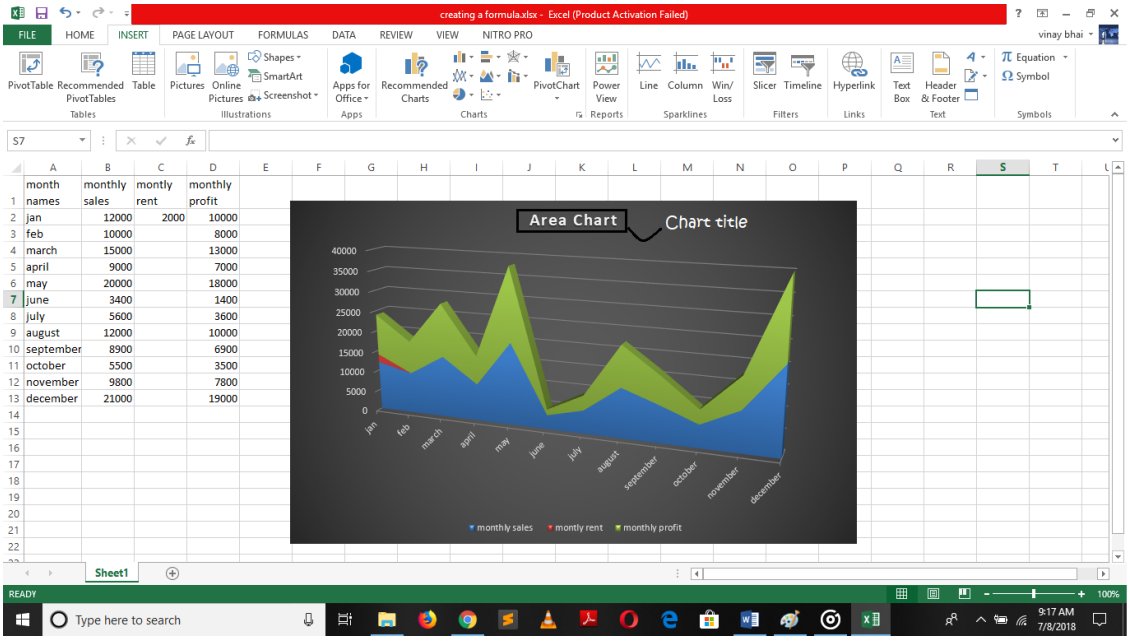
- Pie charts



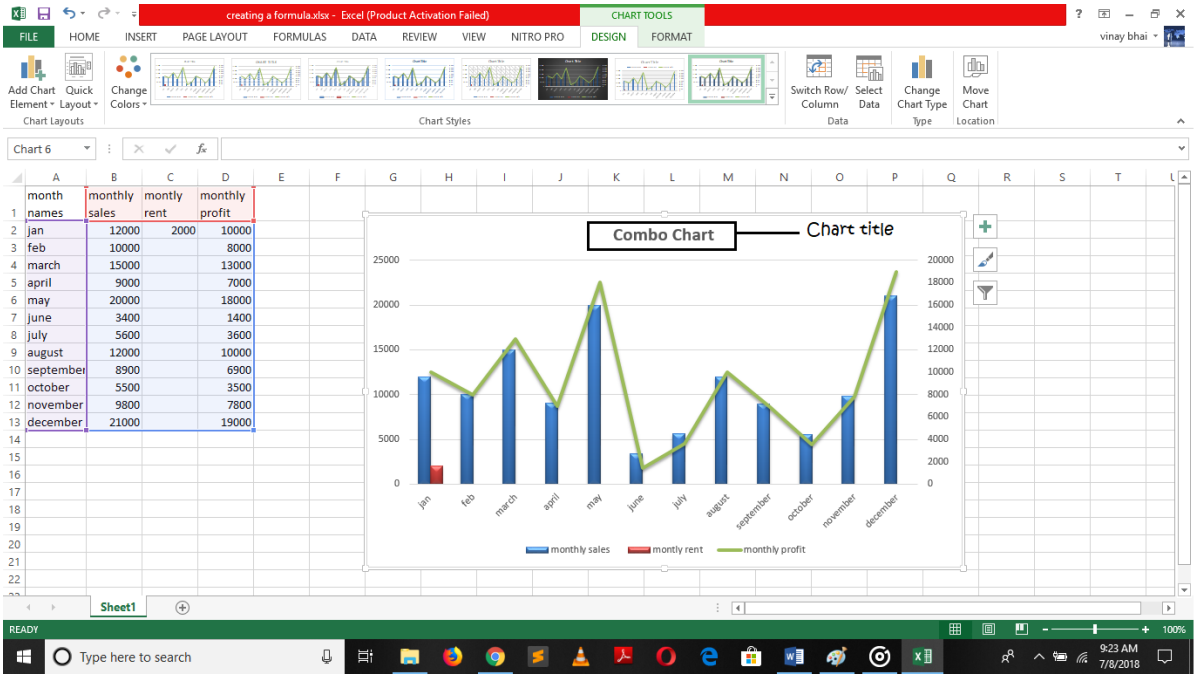
- Scatter chart



- Area charts



- Combo chart



Formatting Chart –

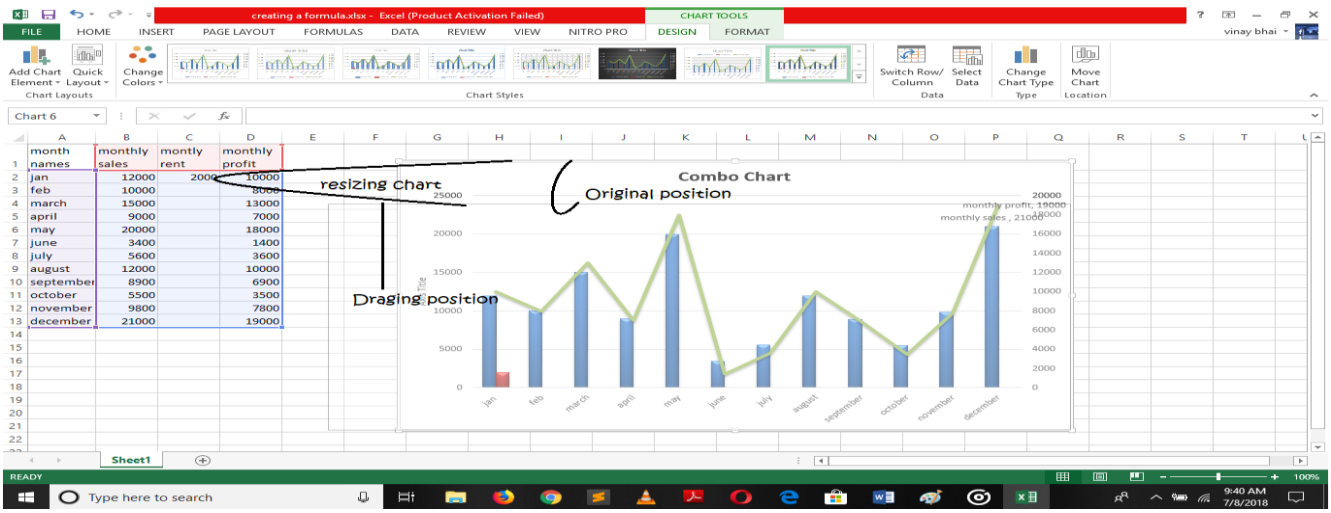
You can edit your chart layout, styling, designing etc. as per your condition. You can even add chart element like chart title, axis title, data label, data table etc. Follow these simple step to edit or formatting your charts –

Adding Chart Element -

1. If you want to add or edit element in your chart, first click on Add Chart Element command inside Chart layout section under a Design tab.
2. Add any element of your choice and edit it by double click on it.
3. Or if you want to directly edit your element, double click on element and edit it with your content.
4. You can also use Chart layout just by selecting any layout of your choice from Quick Layout command under Chart layout section.
5. Chart layout is predefined designing layout used to edit your chart quickly.
6. Select any style of your choice from Chart Style section to give styling to your charts.
7. Selected styling will appear in your chart.

Moving and Resizing Charts –

To move your chart you can drag it from its original position and place it anywhere you want like you drag images in PowerPoint presentation. Also you can resize your charts just by dragging its edge, on appearing double arrow tilt bar.



Insert a chart in your Annual growth report and track your last two performs. Also don't forget to share your project, research or words with us, if your work is really nice, we post it in our blogs with your name, under hashtag #**ShareYourKnowledge**.

Sharing your knowledge will inspire other and amplify your skills.
Now you learn all about formula's, function's and cell reference and now we are at the end of this course. Hope you learn advance excel skills in a simplest way, and enjoy your journey. Technology is getting advance with every day updates.

So it's your responsibilities to update yourself in in this we helps you. Read our blogs for more update and information and also mail your question to us we gives your answer in blogs. or for any feedback feel free to mail us, we continuously work hard to give you finest services advices us how we can improve us.

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