

Class: BSc

Subject : Application of IT- Basics Excel

Chapter: Unit 3 Chapter 2 - Part 2

Chapter Name: Writing Formula

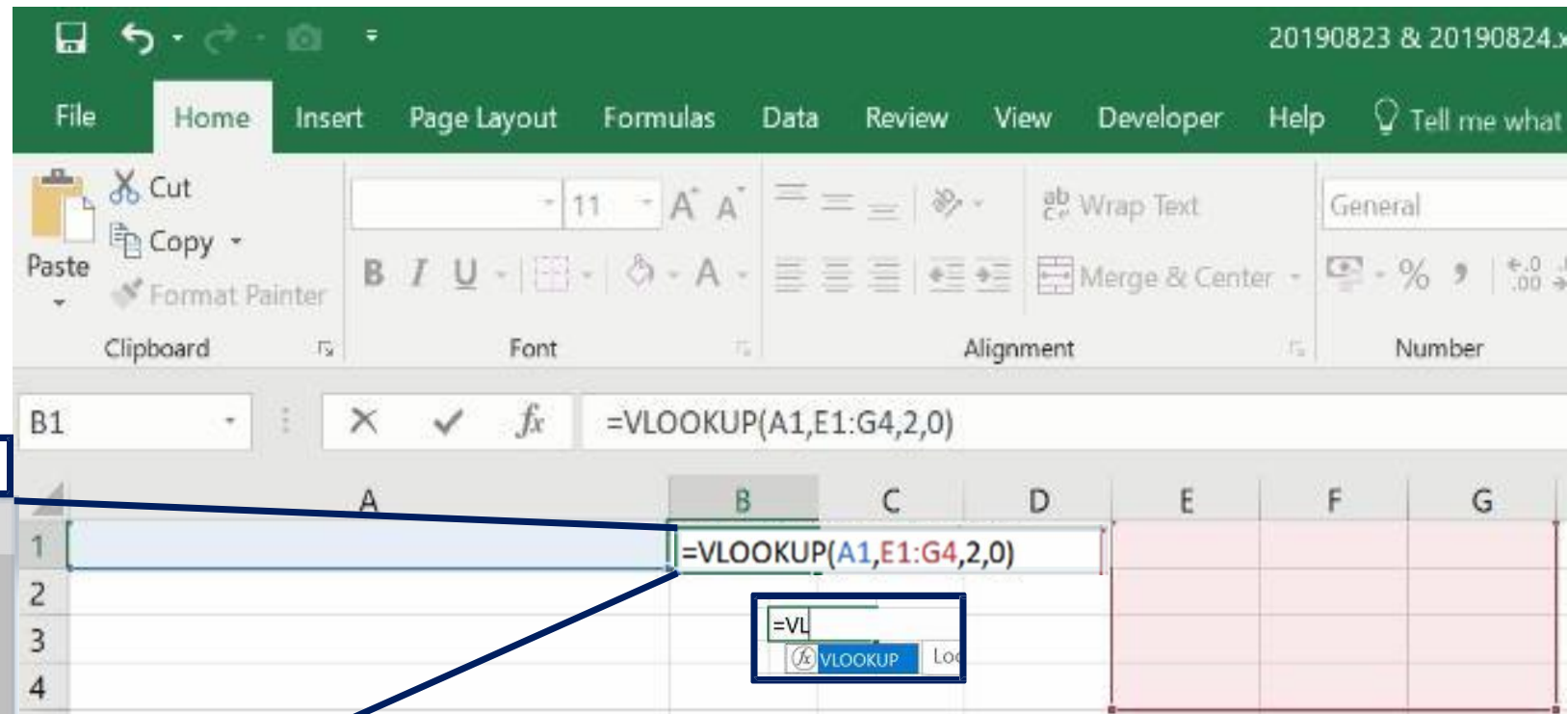
Working with Formulas

To enter formulas manually □
start with "=" sign □ enter
function name □ open
parenthesis □ enter all
arguments (optional arguments
may be skipped) □ close
parenthesis □ hit enter

Formula in B1

=VLOOKUP(A1,E1:G4,2,0)

- **A1** = Lookup Value / Criteria
- **E1:G4** = Table Array or Range
- **2** = Column Reference Number from where the Data needs to be extracted
- **0** = Type of Match



Working with Formulas

To enter using the arrow keys

1. Select cell A3
2. Type "=SUM("
3. Use "Up Arrow" key to select A1 Enter ":"
4. Use "Up Arrow" key to select A2
5. Type "("
6. Hit enter

You can also point to the data cells by using your mouse

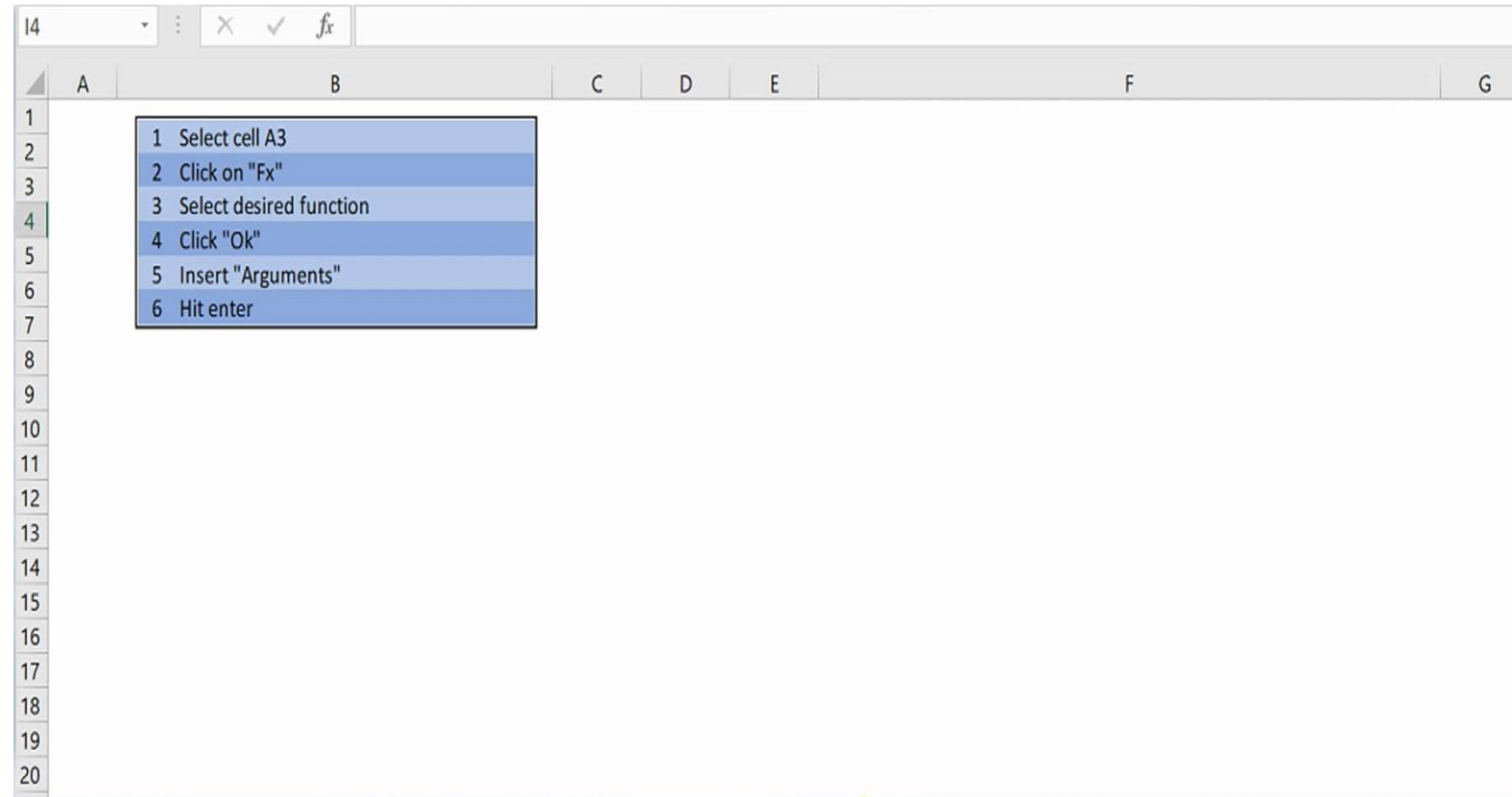
| | A | B |
|---|---|---|
| 1 | | 1 Select cell A3 |
| 2 | | 2 Type "=SUM(" |
| 3 | | 3 Use "Up Arrow" key to select A1 Enter ":" |
| 4 | | 4 Use "Up Arrow" key to select A2 |
| 5 | | 5 Type "(" |
| 6 | | 6 Hit enter |
| 7 | | |

Excel 2013 color-codes the range addresses and ranges when you're entering or editing a formula

Working with Formulas

Using the “Fx” button to insert a formula

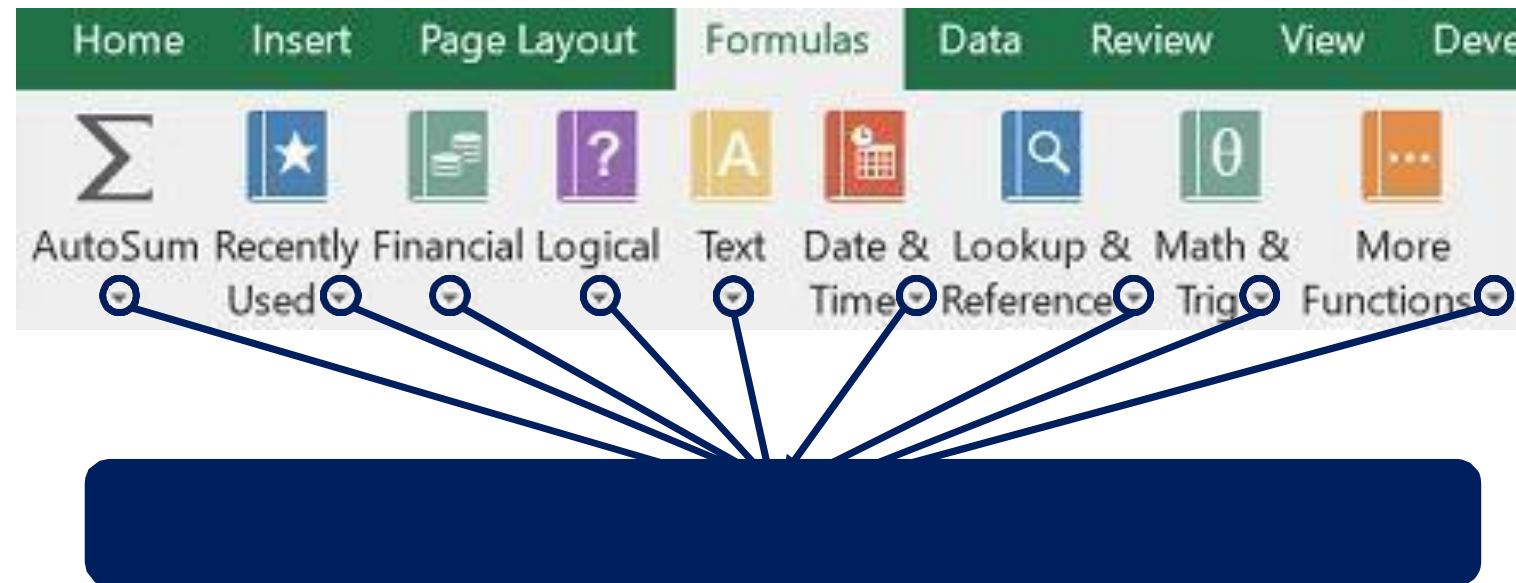
1. Select cell A3
2. Click on “Fx” **(or Shift + F3)**
3. Select desired function
4. Click “Ok”
5. Insert “Arguments”
6. Hit enter



Working with Formulas

Using the “Formulas Tab”

1. Select cell A3
2. Click on “Formulas”
3. Select desired function by clicking on the “Expand” of required group and clicking on the function
4. Insert "Arguments"
5. Hit enter



Working with Formulas

Relative v/s Absolute Reference

Excel lets you enter two different types of references (other than Named references), they are

"Relative" & "Absolute" references,

While a relative reference will change when copied and pasted into another cell, the absolute reference will remain the same immaterial where it's pasted

| Reference | Meaning |
|---------------------------|-------------------------------|
| = <u>\$</u> A1 | Column Reference Locked |
| =A <u>\$</u> 1 | Row Reference Locked |
| = <u>\$</u> A <u>\$</u> 1 | Column & Row Reference Locked |
| =A1 | Relative Reference |

Working with Formulas

- Select entire reference you want to change and hit F4, excel will keep changing the type of reference Relative □ Absolute □ Column Relative, Row Absolute □ Column Absolute, Row Relative
- A dollar "\$" sign converts a reference from "Relative" to "Absolute"

| Reference | Meaning |
|---------------------------|-------------------------------|
| = <u>\$</u> A1 | Column Reference Locked |
| =A <u>\$</u> 1 | Row Reference Locked |
| = <u>\$</u> A <u>\$</u> 1 | Column & Row Reference Locked |
| =A1 | Relative Reference |

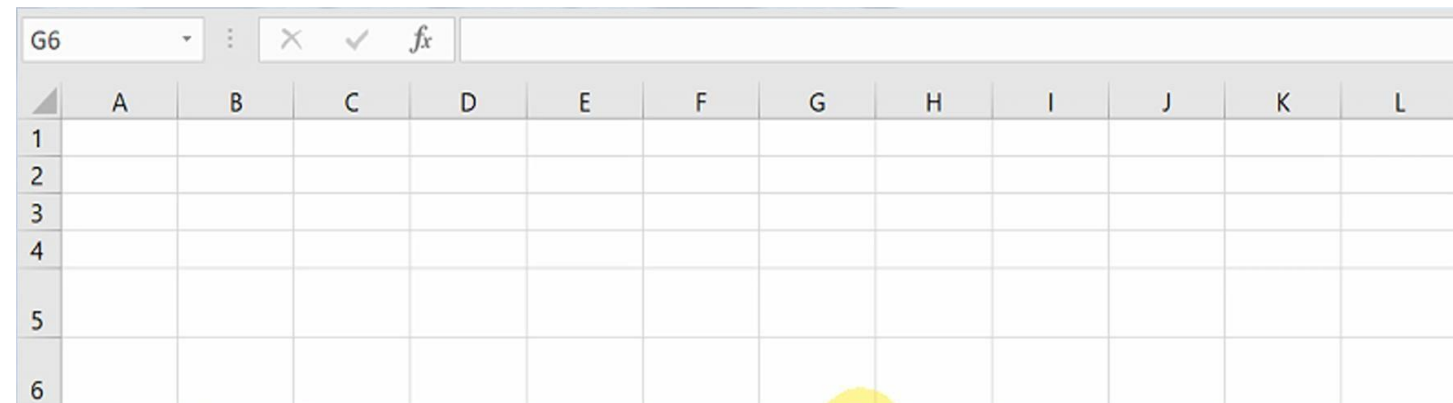
Working with Formulas

Drag & Drop References

To change a reference in a cell, either select the reference, click on the cell that you need to refer to and click enter

Or

Select cell, click inside the formula bar, drag the reference cell from current to the required one



Working with Formulas

Referencing a cell

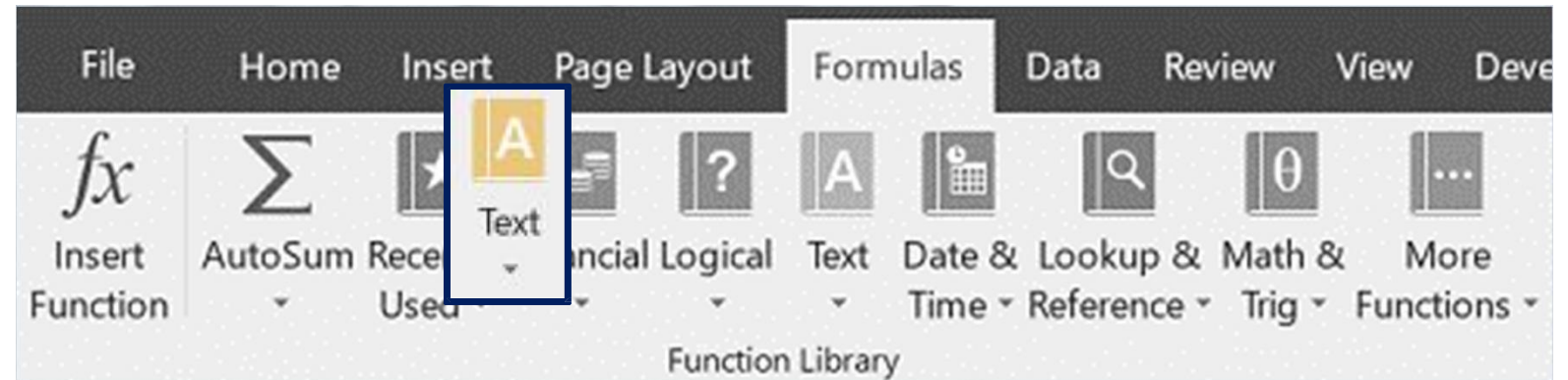
1. Same worksheet
2. Same workbook
3. Different workbook
(=[WorkbookName]SheetName!
CellAddress)

To create formulas that refer to cells in a different worksheet, point to the cells rather than enter their references manually. Excel takes care of the details regarding the workbook and worksheet references. The workbook you're referencing in your formula must be open if you're going to use the pointing method.

| Formula | |
|--|---|
| 1 | =A2 |
| 2 | =Sheet2!A1 |
| 3 | = 'my new sheet'!A1 |
| 3 | = 'https://d.docs.live.net/ef3b4ae71bb46bc3/[OAT Business Appointments (Calendar).xlsx]Sheet1'!A7 |
| =A2 | |
| Only reference | |
| Reference with "Sheet Name" | |
| = 'my new sheet'!A1 | |
| Reference with "Sheet Name" between single quotes because "Sheet Name" contains a space | |
| = 'https://d.docs.live.net/ef3b4ae71bb46bc3/[OAT Business Appointments (Calendar).xlsx]Sheet1'!A7 | |
| Path with Drive & Folder Name File name & type Sheet name Cell reference | |
| Parameter | Entire reference from Path until sheet name inserted between single quote |
| Path with Drive & Folder Name | https://d.docs.live.net/ef3b4ae71bb46bc3/ |
| File name & type | [OAT Business Appointments (Calendar).xlsx] |
| Sheet name | Sheet1 |
| Cell reference | !A7 |

Text Function

1. TRIM
2. LOWER
3. PROPER
4. UPPER
5. TEXT
6. VALUE
7. LEFT
8. MID
9. RIGHT
10. LEN
11. FIND
12. SEARCH
13. REPLACE
14. SUBSTITUTE



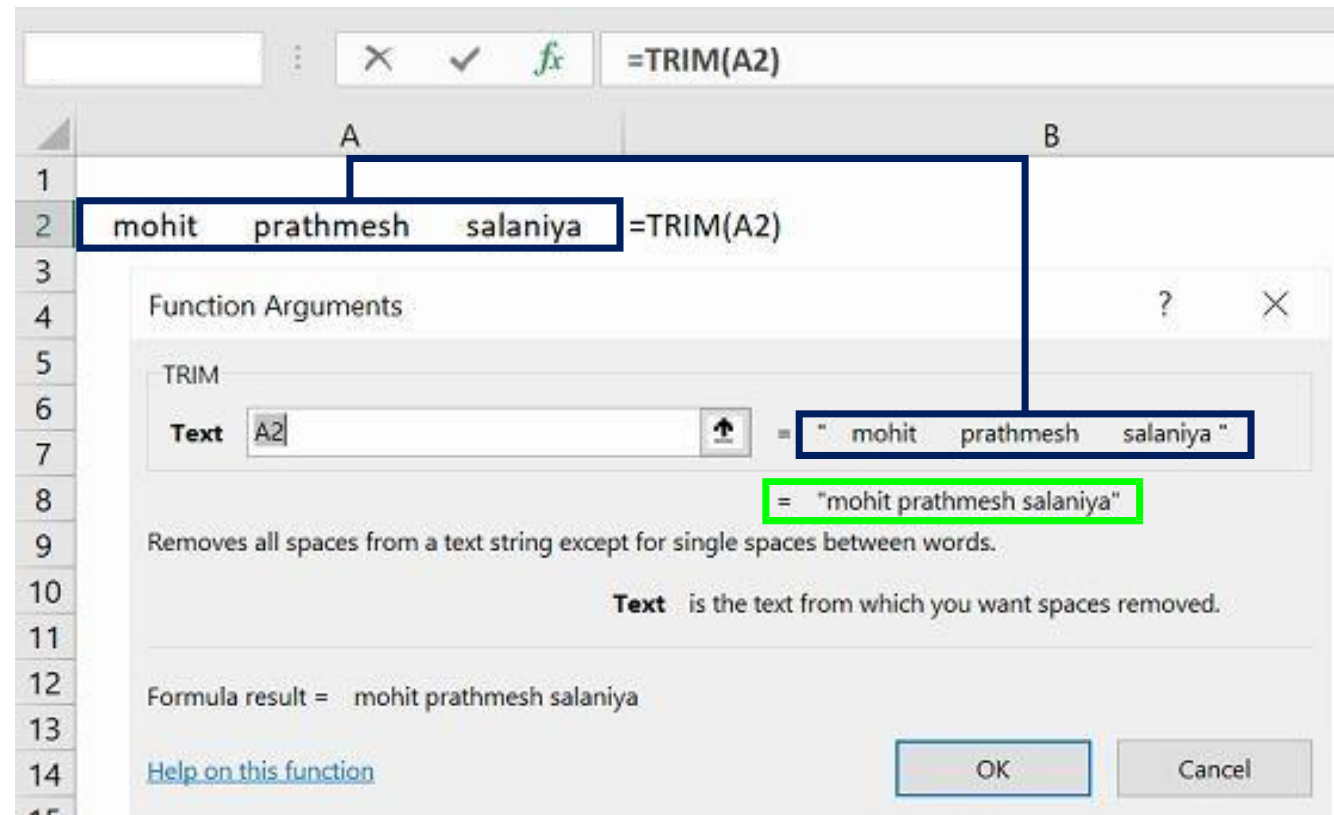
Text Functions

TRIM

Removes duplicate spaces, and spaces at the start and end of a text string

Argument/s:

1. Cell Reference or Text



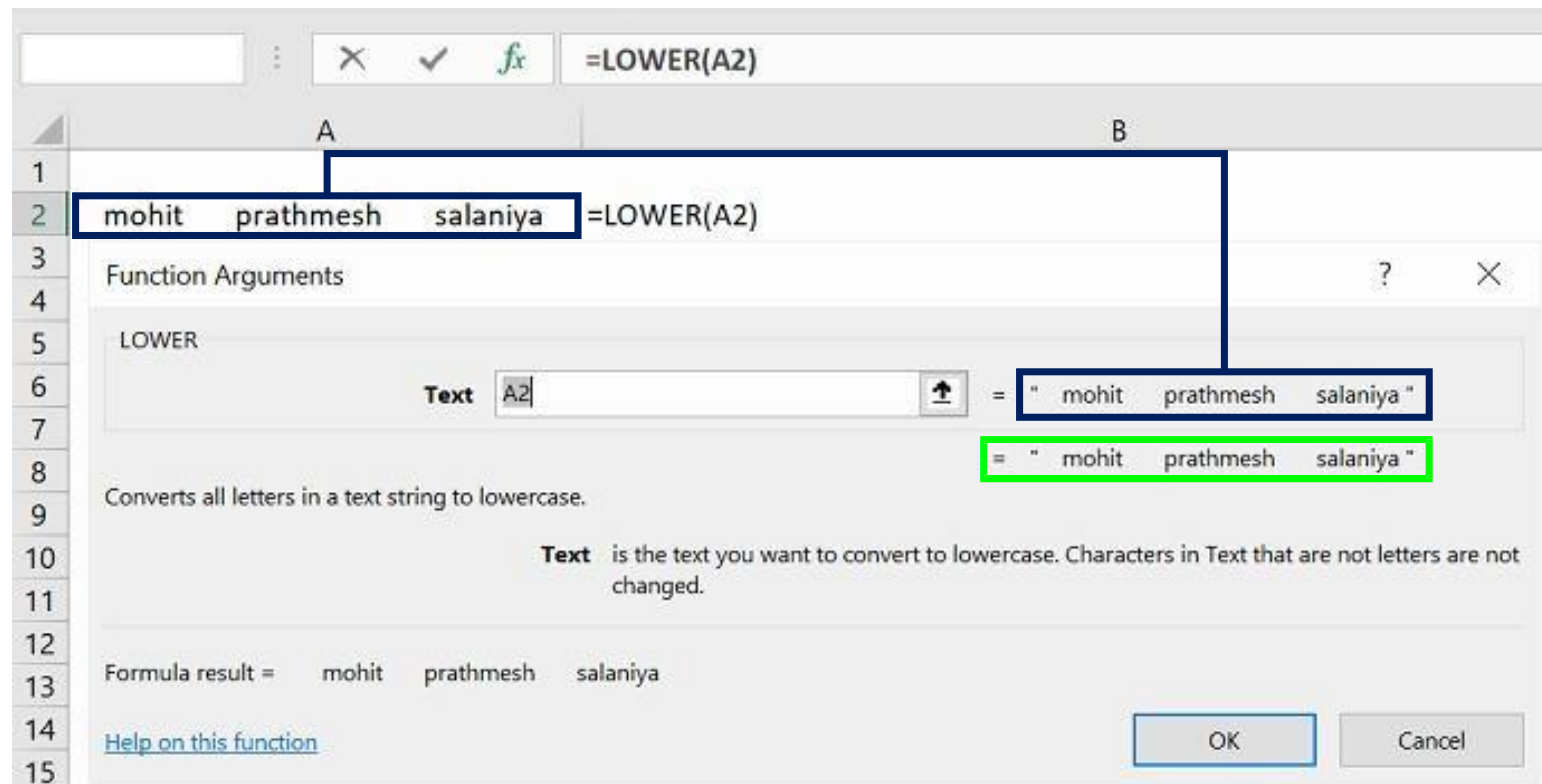
Text Functions

LOWER

Converts all characters in a supplied text string to lower case

Argument/s:

1. *Cell Reference or Text*



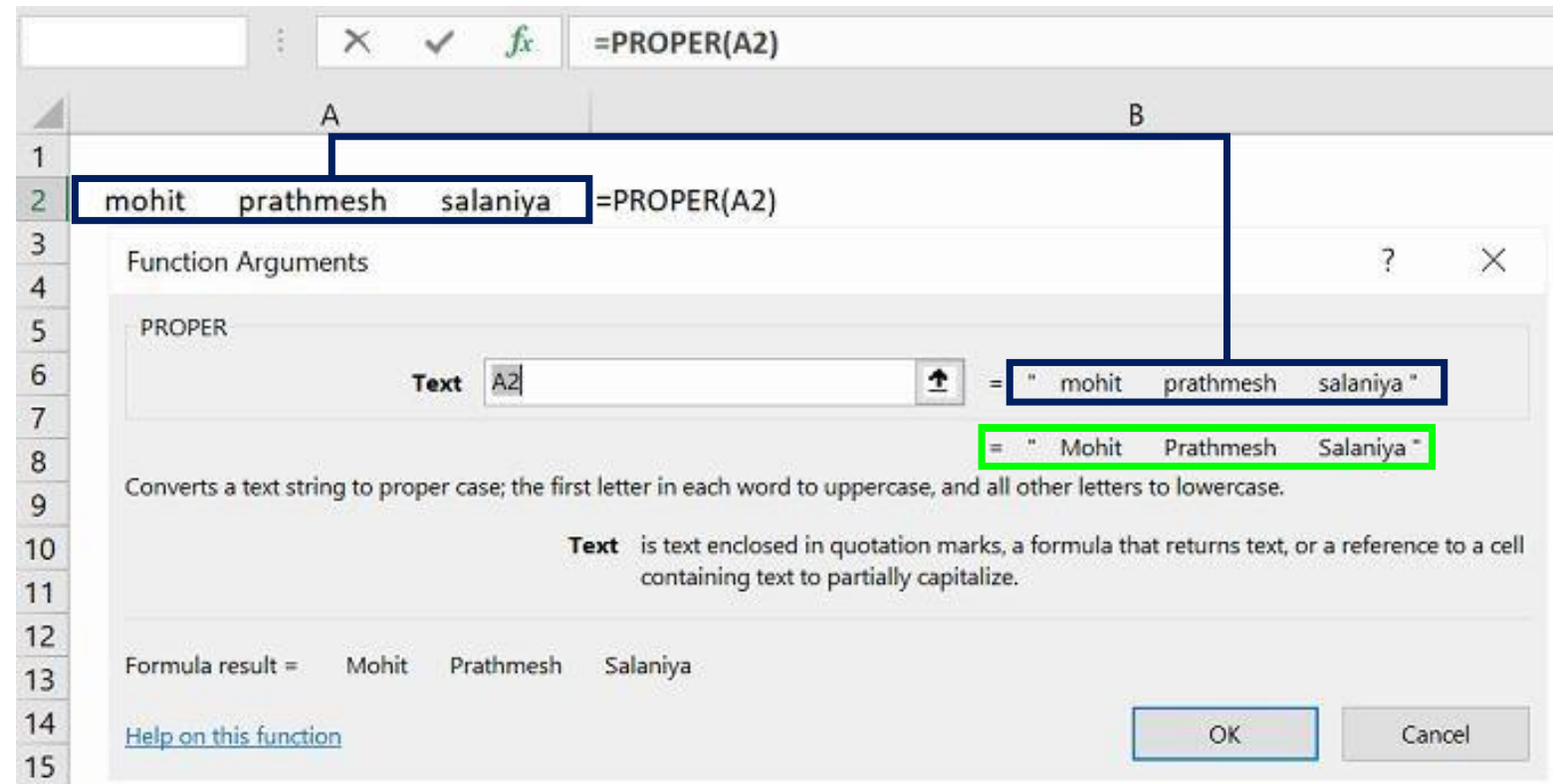
Text Functions

PROPER

Converts all characters in a supplied text string to proper case (First letter of each word in the string will convert to upper case)

Argument/s:

1. Cell Reference or Text



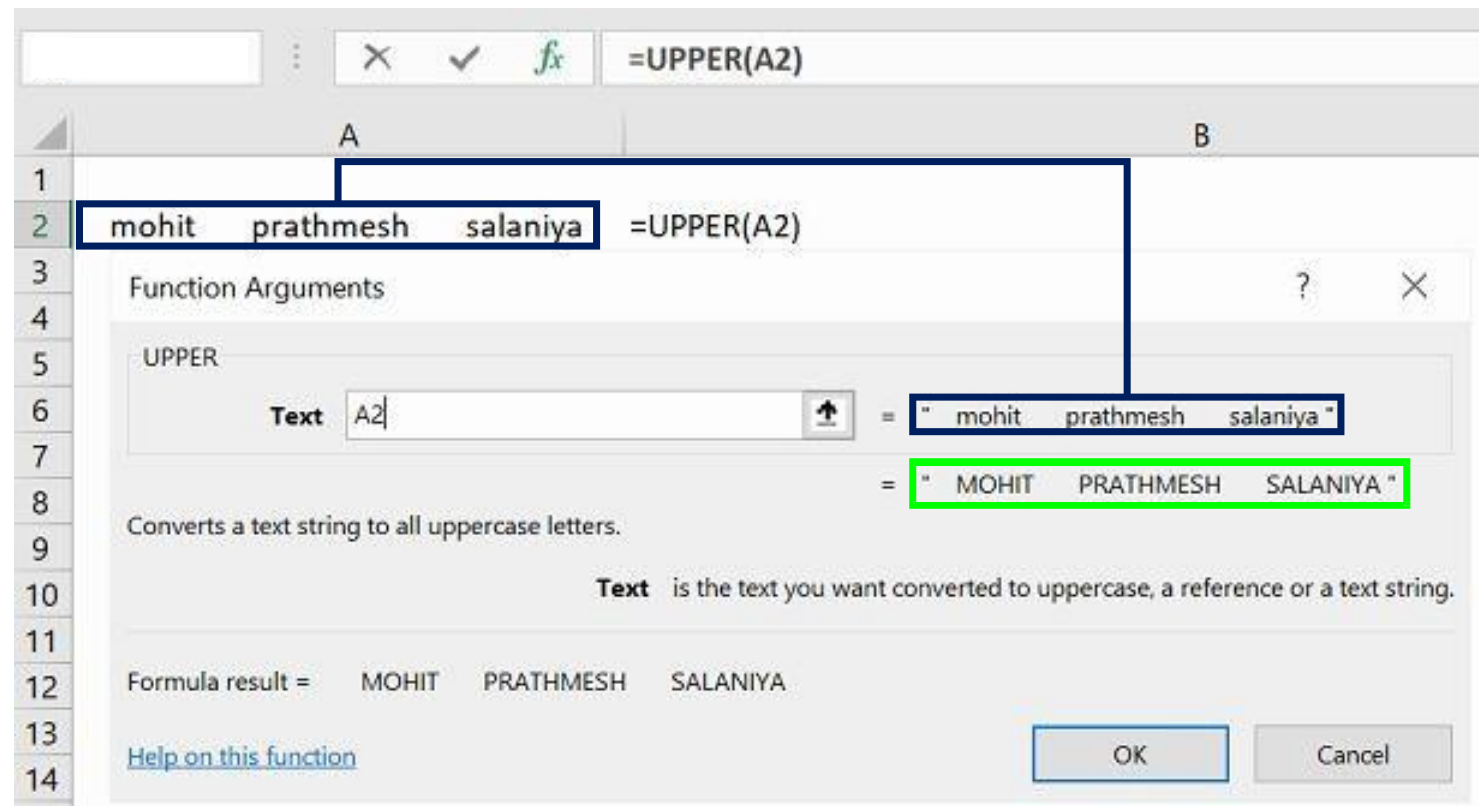
Text Functions

UPPER

Converts all characters in a supplied text string to upper case

Argument/s:

1. Cell Reference or Text



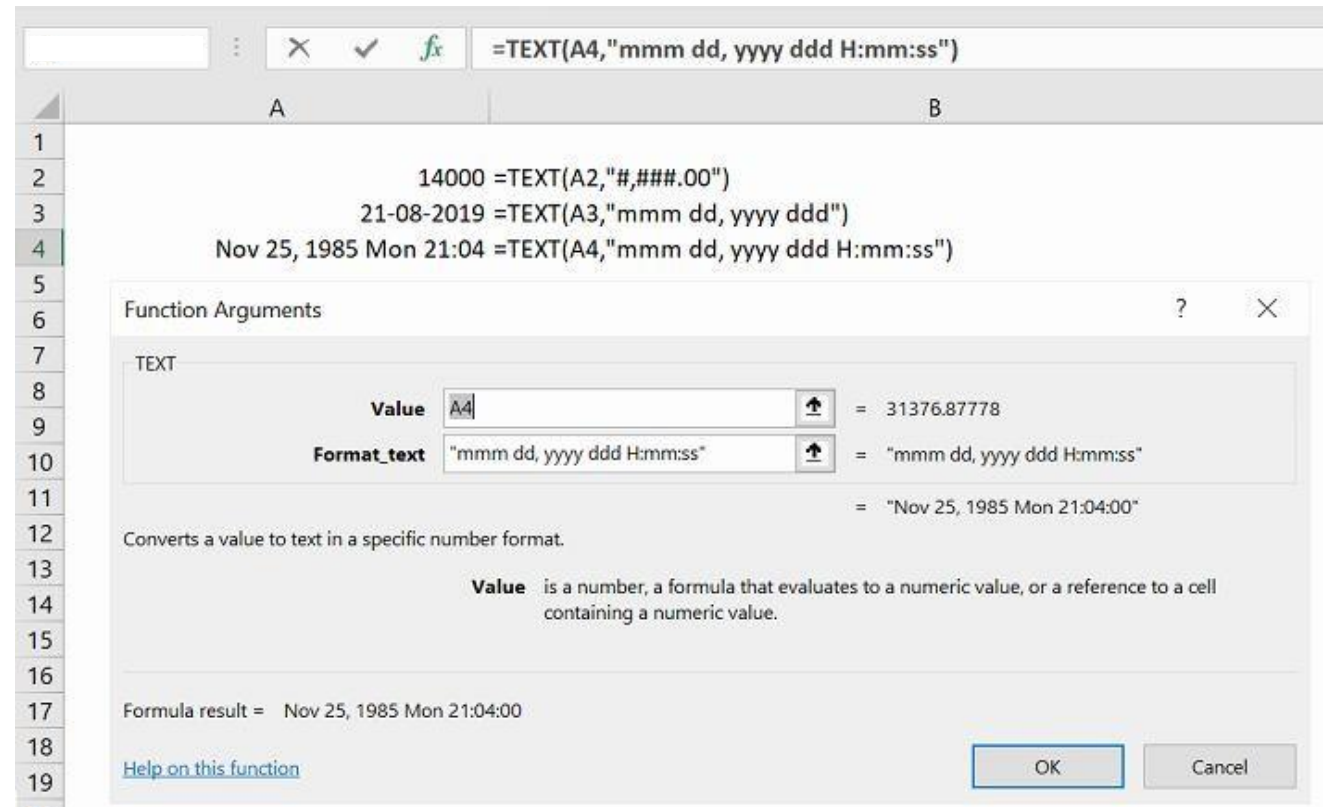
Text Functions

TEXT

Converts a supplied value into text, using a user-specified format

Argument/s:

1. Value or Number
2. Desired format



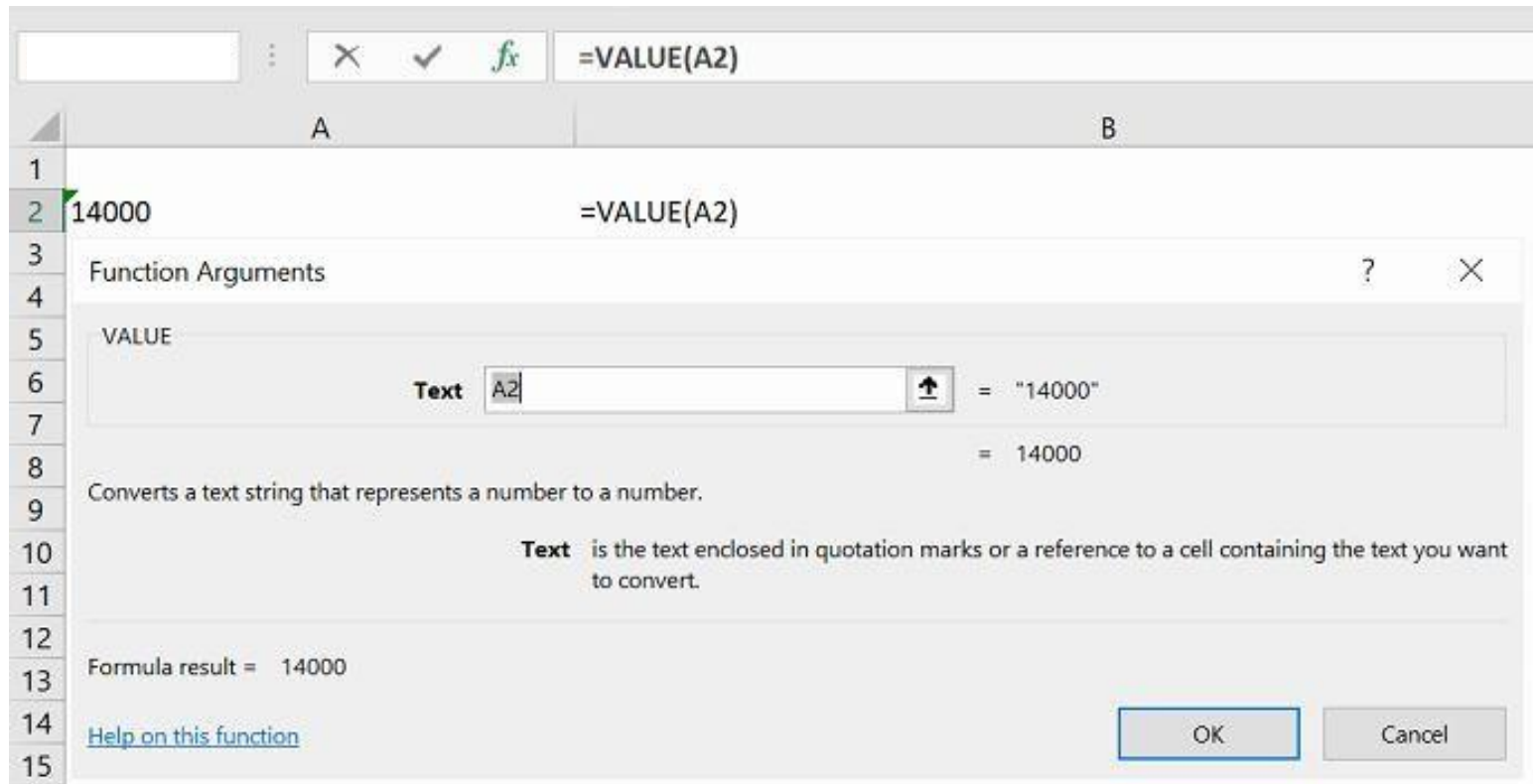
Text Functions

VALUE

Convert a text string into numerical value

Argument/s:

1. *Value or Number*



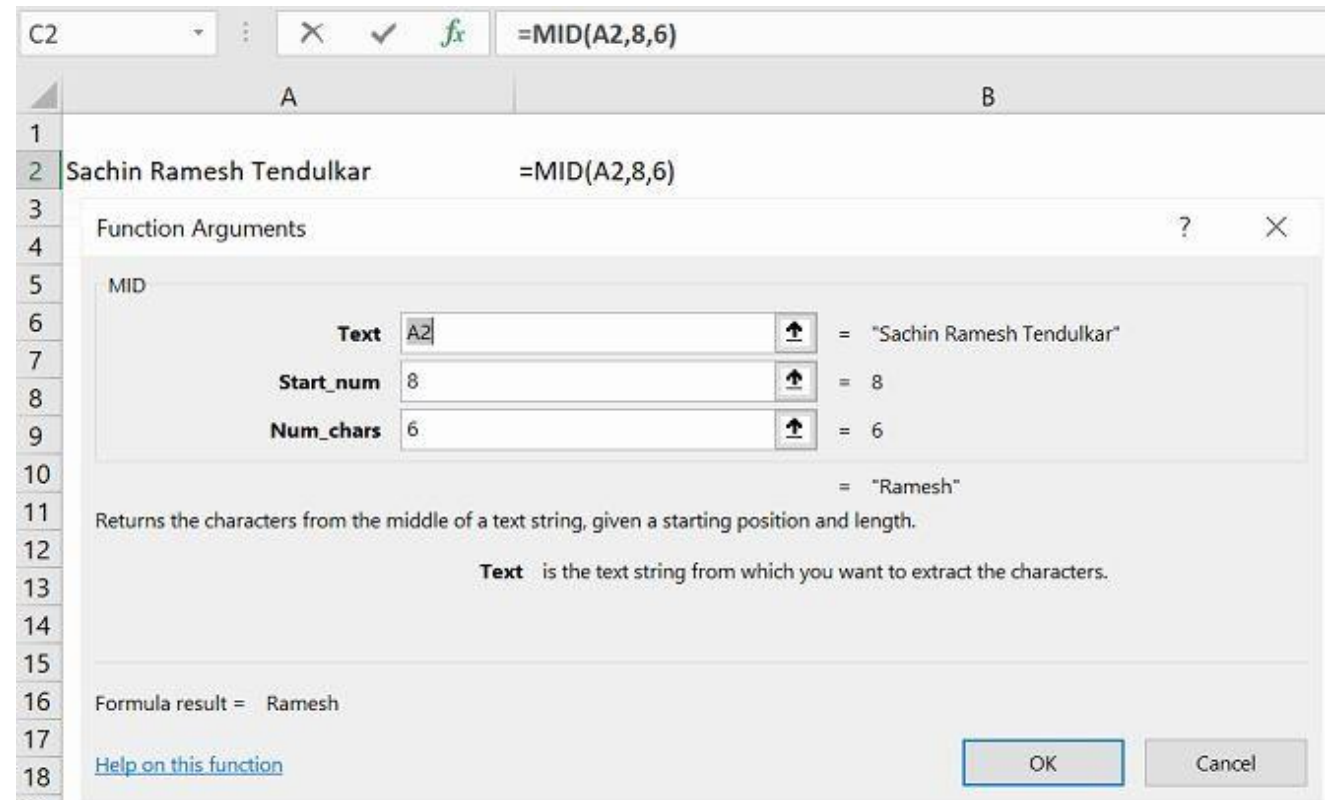
Text Functions

MID

Returns a specified number of characters from the middle of a supplied text string

Argument/s:

1. Cell Reference or Text
2. Number, Cell, Reference or Formula
3. Number, Cell, Reference or Formula



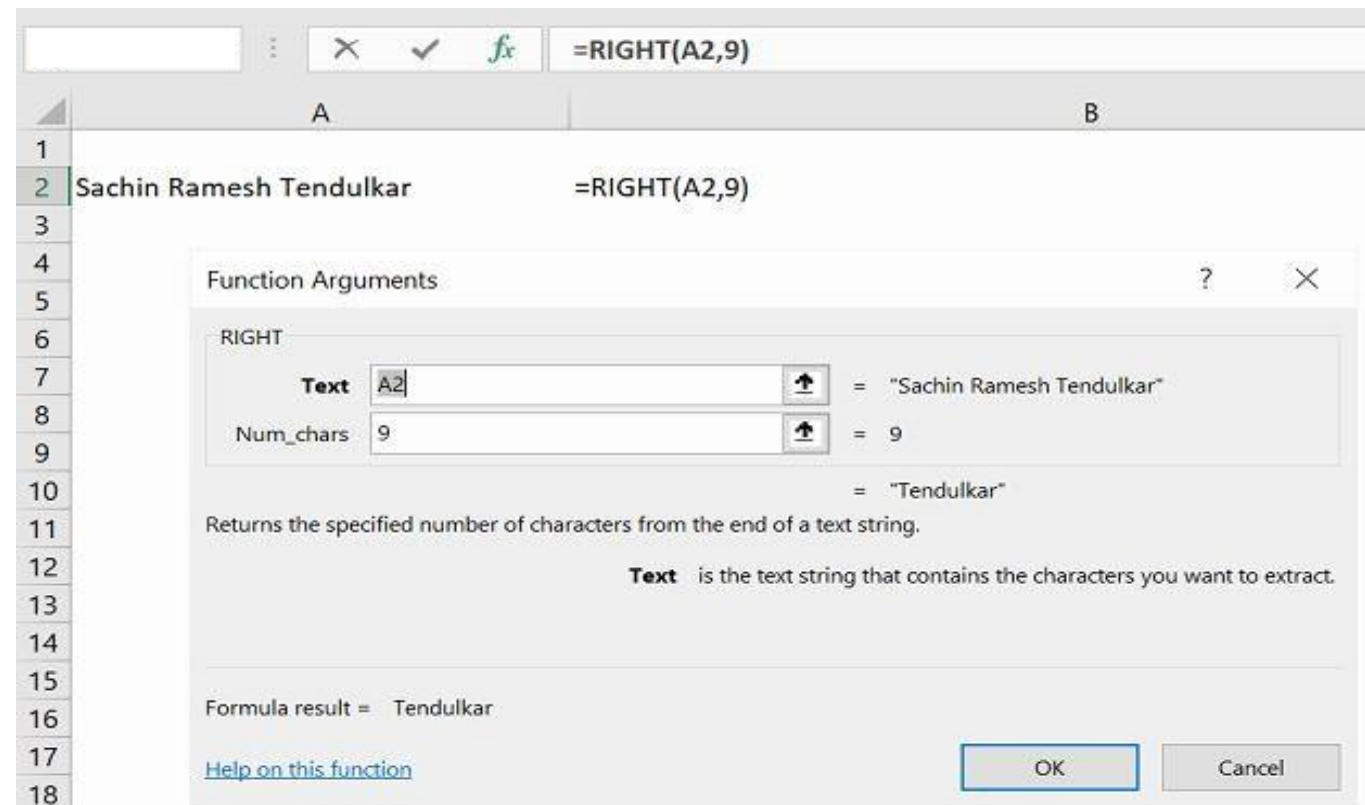
Text Functions

RIGHT

Returns a specific character from the end of supplied text string

Argument/s:

1. Cell Reference or Text
2. Number, Cell Reference or Formula



Text Functions

LEN

Returns the length of a supplied text string

Argument/s:

1. Cell Reference or Text or Formula

The screenshot shows an Excel spreadsheet with the following data:

| | A | B |
|---|-------------------------|----------|
| 1 | | |
| 2 | Sachin Ramesh Tendulkar | =LEN(A2) |

Below the spreadsheet, the 'Function Arguments' dialog box for the LEN function is displayed. It shows the following details:

- Function:** LEN
- Text:** SUBSTITUTE(A2," ","")
- Result:** = "SachinRameshTendulkar"
- Formula result:** = 23
- Description:** Returns the number of characters in a text string.
- Text argument:** Text is the text whose length you want to find. Spaces count as characters.
- Buttons:** OK, Cancel, and a link to 'Help on this function'.

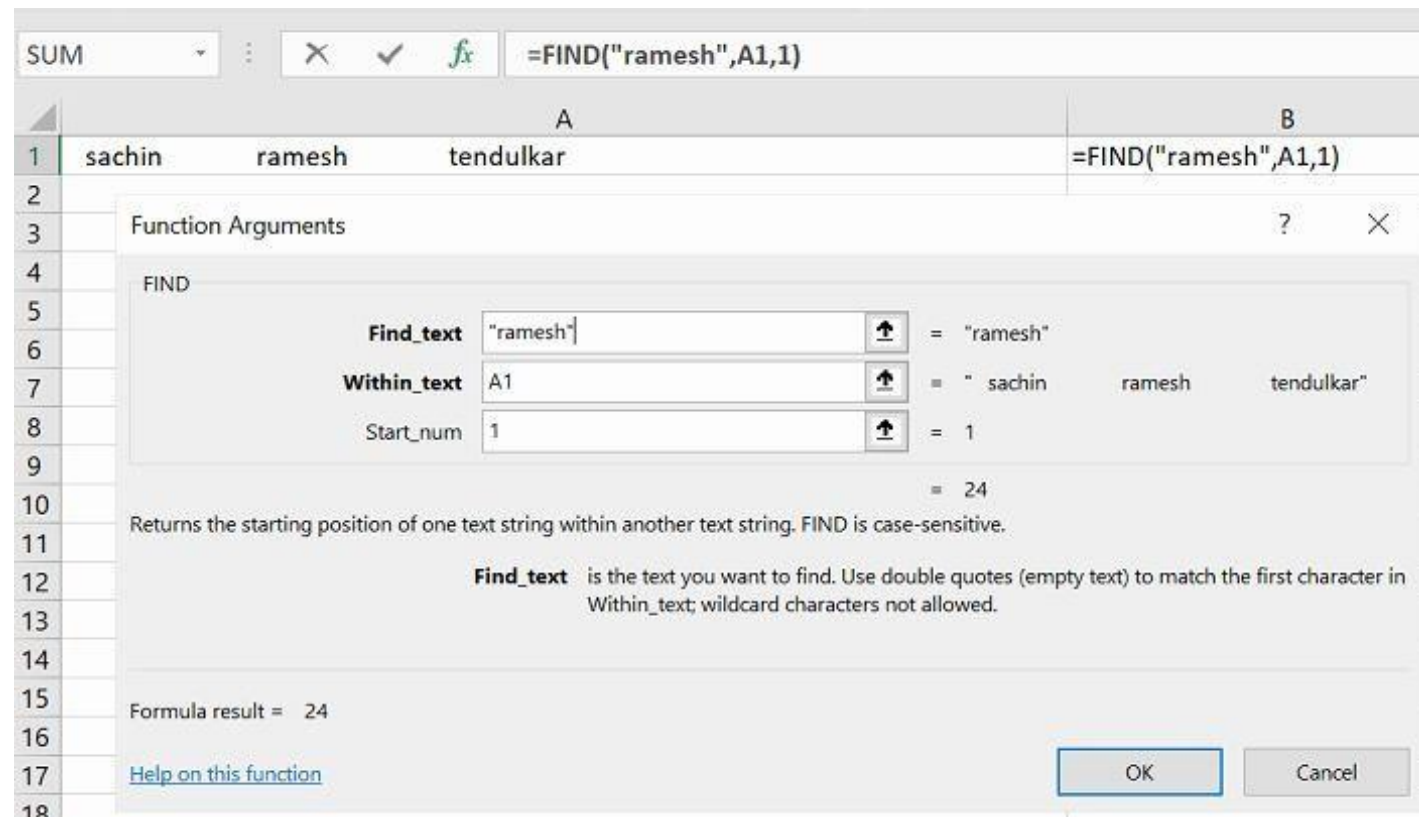
Text Functions

FIND

Returns the position of a supplied character or text string from within a supplied text string (case-sensitive)

Argument/s:

1. Find Text (Cell Reference, Text or Formula)
2. Within Text (Cell Reference, Text or Formula)
3. Start Number (Cell



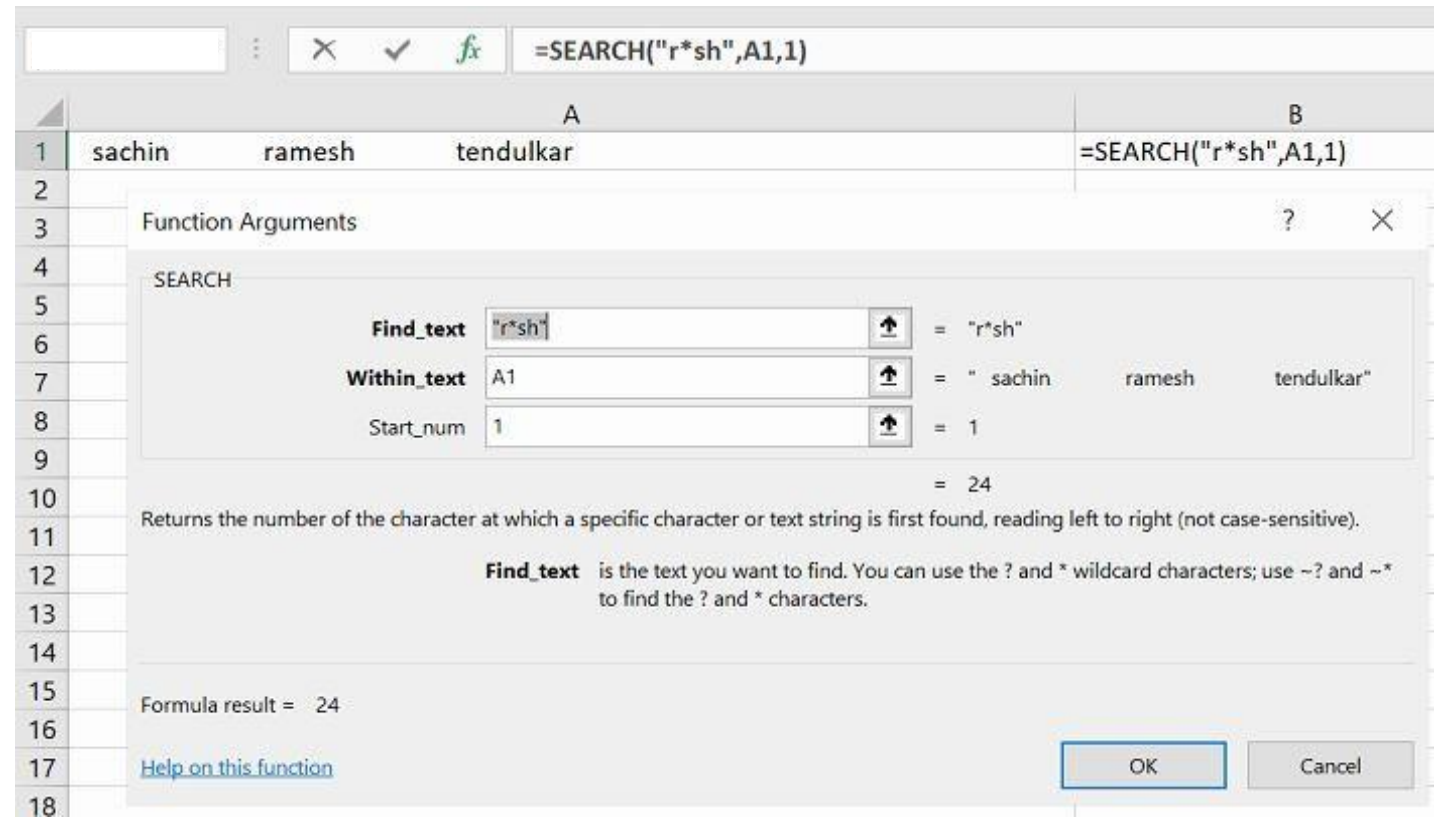
Text Functions

SEARCH

Returns the position of a supplied character or text string from within a supplied text string (not-case-sensitive and accepts wildcard characters)

Argument/s:

1. Find Text (Cell Reference, Text or Formula)
2. Within Text (Cell Reference, Text or Formula)
3. Start Number (Cell Reference, Text or Formula)



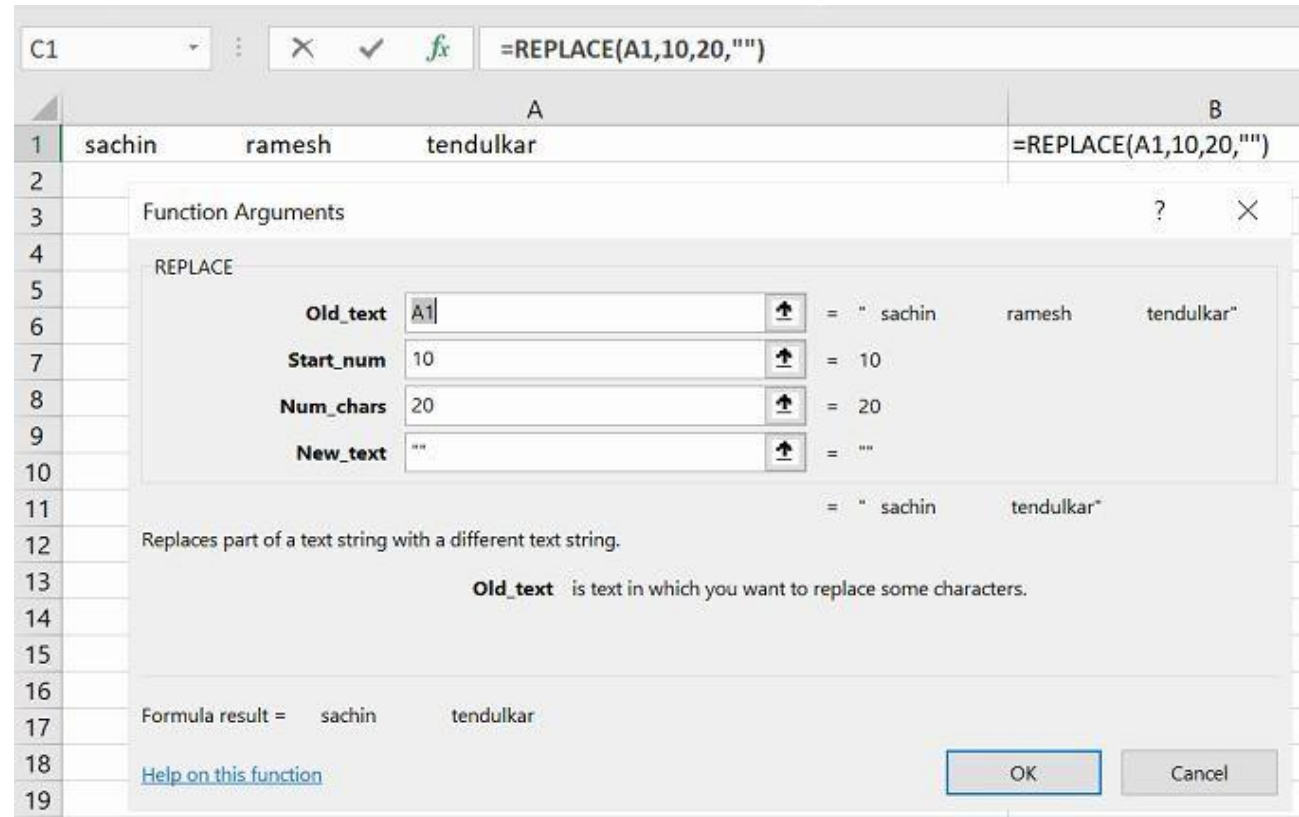
Text Functions

REPLACE

Replaces all or part of a text string with another string (from a user supplied position)

Argument/s:

1. Old Text (Cell Reference, Text or Formula)
2. Start Number (Cell Reference, Value or Formula)
3. Number of Characters (Cell Reference, Value or Formula)
4. New Text (Cell Reference, Text or Formula)



Text Functions

SUBSTITUTE

Substitutes all occurrences of a search text string, within an original text string, with the supplied replacement text

Argument/s:

1. Text (Cell Reference, Text or Formula)
2. Old Text (Cell Reference, Text or Formula)
3. New Text (Cell Reference, Text or Formula)
4. Instance Number (Cell reference, Value or formula)

