

Cell References and Data Lookup in Excel



Pratheerth Padman
FREELANCE DATA SCIENTIST



Module Overview



Cell references in Excel

Looking up data

- VLOOKUP
- INDEX-MATCH



Cell References in Excel



Cell Reference

Cell reference is an alphanumeric value used to identify a specific cell in a worksheet



Types of Cell Reference

**Relative reference –
reference that
changes when copied
to another location**

**Absolute reference –
reference that does
not change when
copied to another
location**

**Mixed reference – part
absolute and part
relative references**



VLOOKUP Function



What Will Lookup Functions Do for You?

Inventory List Company Name										
Highlight items to reorder? Yes										
For Reorder	Inventory ID	Name	Description	Unit Price	Quantity in Stock	Inventory Value	Reorder Level	Reorder Time in Days	Quantity in Reorder	Discontinued?
▶	IN0001	Item 1	Desc 1	\$51.00	25	\$1,275.00	29	13	50	
▶	IN0002	Item 2	Desc 2	\$93.00	132	\$12,276.00	231	4	50	
	IN0003	Item 3	Desc 3	\$57.00	151	\$8,607.00	114	11	150	
	IN0004	Item 4	Desc 4	\$19.00	186	\$3,534.00	158	6	50	
	IN0005	Item 5	Desc 5	\$75.00	62	\$4,650.00	39	12	50	
▶	IN0006	Item 6	Desc 6	\$11.00	5	\$55.00	9	13	150	
	IN0007	Item 7	Desc 7	\$56.00	58	\$3,248.00	108	7	100	Yes
▶	IN0008	Item 8	Desc 8	\$38.00	101	\$3,838.00	162	3	100	
	IN0009	Item 9	Desc 9	\$59.00	122	\$7,198.00	82	3	150	
▶	IN0010	Item 10	Desc 10	\$50.00	175	\$8,750.00	283	8	150	
▶	IN0011	Item 11	Desc 11	\$59.00	176	\$10,384.00	229	1	100	
▶	IN0012	Item 12	Desc 12	\$18.00	22	\$396.00	36	12	50	
▶	IN0013	Item 13	Desc 13	\$26.00	72	\$1,872.00	102	9	100	
▶	IN0014	Item 14	Desc 14	\$42.00	62	\$2,604.00	83	2	100	
	IN0015	Item 15	Desc 15	\$32.00	46	\$1,472.00	23	15	50	
▶	IN0016	Item 16	Desc 16	\$90.00	96	\$8,640.00	180	3	50	

Full list

Unit price

Inventory ID	Unit Price
IN0012	?
IN0003	?
IN0011	?
IN0007	?
IN0021	?

Your list



VLOOKUP Function



Searches for specified value in the leftmost col. of a table and returns another value from the same row



V - vertical



VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])



Demo



Looking up data with the VLOOKUP function



INDEX and MATCH Functions



INDEX Function

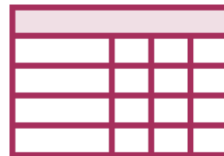
INDEX returns values at a given location from a table or list



`INDEX(array, row_num, [column_num])`



Array - range of cells that you want to return a value from



Row num, col num – row and column number in the array

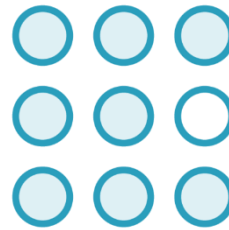


MATCH Function

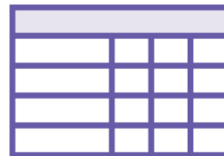
MATCH returns the numeric position of an item in a list



MATCH (lookup_value, lookup_array, [match_type])



Lookup value and array – value you are searching for and the range of cells you are searching in



Match type – approx or exact. Values are -1, 0 and 1

Demo



Combining the INDEX and MATCH function

