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Microsoft Excel – Managing Data

VLOOKUP Function

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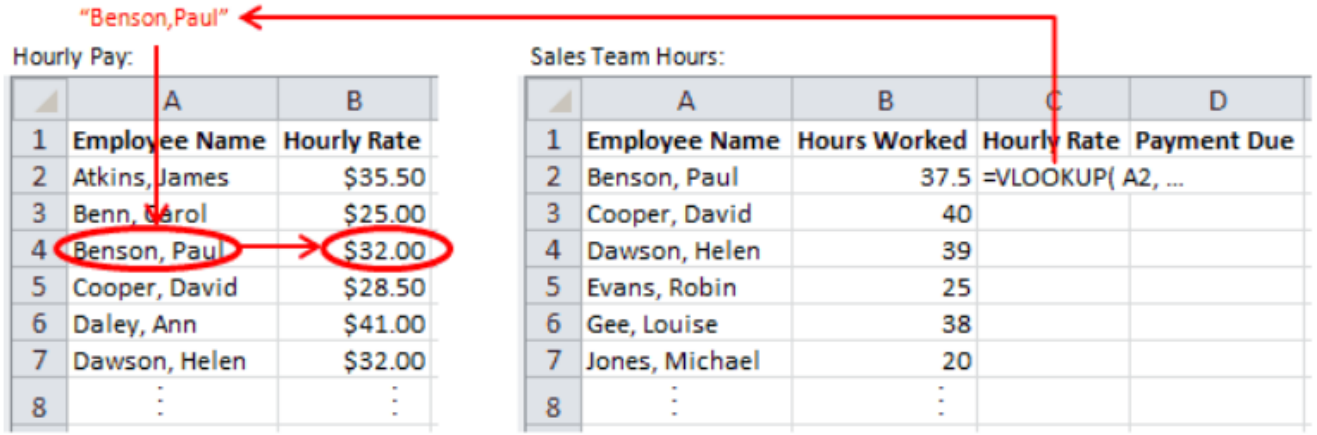
What is VLOOKUP?

- **VLOOKUP** stands for ‘Vertical Lookup’. It works with data organised into columns.
- It is a function that makes Excel search for a certain value in a column in order to return a value from a different column in the same row.

Example: a manager wants to calculate the payment due to their employees.

First step they need to add to the files with the worked hours, the hourly pay rates storage in a different file.



	A	B
1	Employee Name	Hourly Rate
2	Atkins, James	$35.50
3	Benn, Carol	$25.00
4	Benson, Paul	$32.00
5	Cooper, David	$28.50
6	Daley, Ann	$41.00
7	Dawson, Helen	$32.00
8	⋮	⋮

	A	B	C	D
1	Employee Name	Hours Worked	Hourly Rate	Payment Due
2	Benson, Paul	37.5		
3	Cooper, David	40		
4	Dawson, Helen	39		
5	Evans, Robin	25		
6	Gee, Louise	38		
7	Jones, Michael	20		
8	⋮	⋮		

VLOOKUP

The VLOOKUP function is categorized as a Lookup/Reference Function:

```
=VLOOKUP(Lookup_value, Table_array, Col_index_num, [Range_lookup])
```

The VLOOKUP function uses the following arguments:

- **Lookup_value**: It specifies the value that we want to look up in the first column of a table.
- **Table_array** : It is the data array that is to be searched. The VLOOKUP function searches in the left-most column of this array.
- **Col_index_num**: This is an integer, specifying the column number of the supplied table_array, that you want to return a value from.
- **Range_lookup**: This defines what this function should return in the event that it does not find an exact match to the lookup_value. This optional argument can be set to TRUE or FALSE.

VLOOKUP – Best Practices

- Use absolute references for range_lookup.

Using absolute references allows you to fill-down a formula so that it always looks at the same exact lookup range.

- Don't store number or date values as text.

When searching number or date values, be sure the data in the first column of table_array is not stored as text values. Otherwise, VLOOKUP might return an incorrect or unexpected value.

- Sort the first column of the table_array before using VLOOKUP.

- Make sure your data doesn't contain erroneous characters.

VLOOKUP features

Some features about the Excel VLOOKUP function:

- The biggest limitation of the function is that it always looks right. It will get data from the columns to the right of the first column in the table.
- If the lookup column contains duplicate values, VLOOKUP will match the first value only.
- The function is not case-sensitive.
- When range_lookup is omitted, the VLOOKUP function will allow a non-exact match. However, it will use an exact match if one exists.
- VLOOKUP formula may break if we insert a column in the table, since hard-coded column index values don’t change automatically when columns are inserted or deleted.
- #N/A! error – Occurs if the VLOOKUP function fails to find a match to the supplied lookup_value.

HLOOKUP

- Data could be structured in a way that your lookup value is in the top row rather than the first column and you want to look down the rows for data rather than across the columns.

- The function that could be used **HLOOKUP**

- The HLOOKUP function has the same arguments as VLOOKUP.

```
=HLOOKUP(Lookup_value, Table_array, Row_index_num, [Range_lookup])
```

- Instead of looking down the first column for the lookup_value argument, HLOOKUP looks across the first row. When it finds a match, it returns the value from the second row of the matching column.