LOOKUP FUNCTIONS

If - Else

- Create two column “Marks” and “Grade”

- If average is <50 then Grade is F
  If average is >50 but <65 Grade is C
  If average is >65 but <80 Grade is B
  If average is >80 Grade is A

Solution

= IF (A2 <50, “F”, IF (A2<65, “C”, IF (A2<80, “B”,” A”)))

Range	Output
0-50	F
50-65	C
65-80	B
80 and above	A

Lookup Tables: Syntax

- =Lookup(lookup_value, lookup_vector, [result_vector])
  - lookup_value is the value to search for in the lookup_range
  - lookup_vector is a single row or single column of data that is sorted in ascending order (the Lookup function searches for value in this range)
  - [result_vector] is a single row or single column of data that is the same size as the lookup_range; the Lookup function searches for the value in the lookup_range and returns the value from the same position in the result_range
- =Lookup(lookup_value, array)
  - lookup_value is the value to search for in the array (values must be in ascending order)
  - array is an array of values that contains both the values to search for and return

Lookup Tables (2)

- Enter this example data:

	A	B	C	D	E
1	**Frequency**	**Colour**		**Value to look up**	**Result**
2	4.14	red		4.19	
3	4.19	orange		5	
4	5.17	yellow		7.66	
5	5.77	green		0	
6	6.39	blue			
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- We're going to use lookup to populate result with the corresponding colors
- Note that some values being looked up don't have exact matches

Lookup Tables (3)

- For each result cell, add a LOOKUP statement. The second part of the LOOKUP can refer to the entire first and second column (A:B)

E2 =LOOKUP(D2,A:B)

	A	B	C	D	E
1	**Frequency**	**Colour**		**Value to look up**	**Result**
2	4.14	red		4.19	orange
3	4.19	orange		5	orange
4	5.17	yellow		7.66	blue
5	5.77	green		0	#N/A
6	6.39	blue			

Lookup Tables (4)

- When Excel can't find an exact lookup match, it will try to substitute the closest one.
- If the lookup value is smaller than any value in the lookup, #N/A is displayed.
- Otherwise, the largest value smaller than the lookup value is used

Lookup Tables (5)

- VLOOKUP is similar to LOOKUP, but allows you to specify a specific column to return as the result. LOOKUP always returns the second column's value as a result.
- The syntax for the VLOOKUP function is: =VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])