**Brief Summary of Major Excel Problems Types That We Covered in Class and Homework**

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| --- | --- | --- |
| **Case Name** | **Excel Essence** | **Remark** |
| LA County Health Dept | Comparing a cell and a lookup | Same row doesn’t mean same company – reason lookup needed |
| DWP account inquiry | Different lookups dependent on cell entries | Supports mtpl-type lookup |
| Blood pressure diagnosis | Nested IF with threshold |  |
| Library book | Handle blank cells in an IF/nested IF context |  |
| VPAC ticket price | Changing return columns dependent on IF | Argument 3 below |
| Product availability | 1) Comparing desired quant with corresponding on-hand volume which is a lookup2) Multiplying desired quant with corresponding price which is a lookup |  |

“Anatomy” of VLOOKUP:

|  |  |  |  |
| --- | --- | --- | --- |
| **Argument: 1** | **2** | **3** | **4** |
| =VLOOKUP(cell\_to\_be\_looked\_up, | Table\_to\_look\_up | Col#\_to\_return | Range/non-range |

Notes on each of the four components of VLOOKUP:

1. The value of the cell to be looked up MUST BE AMONG the values in the first column of the lookup table.
2. The lookup table must-
	1. Have its **first** column contain the value of the value of the cell to be looked up – otherwise it would be an N/A;
	2. Have its latter columns (Col #2, 3, 4, or later columns) contain values (number or text) to be returned to where the formula is entered)
	3. First column must be ascending if the lookup type is range.
3. Column # to return:
	1. Does not have to be 2, can be 3, 4, or even later columns;
	2. Usually should NOT be 1, since looking up a number/text itself does not add any value.
4. Nature and operation of range/non-range lookup:
	1. If the lookup is a one-to-one match, then it is non-range;
	2. If the lookup will correspond to a returned value for a certain range of value to be looked up (such as scores returning grades, credit scores returning credit classes, etc), then it is range lookup;
	3. In a non-range lookup, the first column of lookup table can be in any order; while
	4. In a range lookup the first column of the lookup table must be ASCENDING;
	5. If it is a non-range lookup, the last argument must be FALSE or 0;
	6. If it is a range lookup, the last argument is TRUE or 1, and can be omitted (default).
5. Component 1 and 3 can have IF embedded:

=VLOOKUP(**IF(cond\_1, cell\_a,cell\_b)**, lookup\_table,

**IF(cond\_x, Col#\_m,Col#\_n)**,TRUE/FALSE)

1. (2) (3)

SUMIF(Range\_to\_check, Condition\_for\_checking, Range\_to\_sum)

1. And (3) can be different (“sum salaries for those having sales >=1 million”) or same ((“sum those sales of >=1 million”); (2) must be in “ “.