**The Most Complete Anatomy of SQL SELECT-Statement**

*Dr. Yüe “Jeff” Zhang*, March 22, 2019

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|  | Clause | Main Roles | Can Have | CanNOT Have | Sequence | Necessity | Note |
| 1 | SELECT | List the columns (& expressions) to be returned from the query | Fields;Aggregate functions;Subqueries | Mixture of fields and aggregate functions, \*IF\* the field is not in GROUP BY | 1 | MUST haveCompare; don’t confuse |  |
| 2 | FROM | Indicate the table(s) or view(s) from which data will be obtained | Tables;Views;Subqueries[Table alias defined here] | Fields | 2 | MUST have | JOIN performed in this clause, when join conditions are stated |
| 3 | WHERE | Indicate the conditions under which a row will be included in the result | Fields;Subqueries[NOTE: NO aggregate function!!] | Aggregate function;Alias  | 3 | Optional  | Multi-conditions (*field* OP *val*│*expression*OP: >,<,=,<>)can be joined with AND, OR |
| 4 | GROUP BY | Indicate categorization of results **(\*collapsed\* into groups)** | Fields[only] |  | 4 (when there’s WHERE); 3 (when there’s no WHERE) | Optional | GROUP BY field does NOT need to be in SELECT: can group by a field w/o displaying that field |
| 5 | HAVING | Indicate the conditions under which a category (group) will be included | Fields;Subqueries;Aggregate functions [compared w WHERE] | Alias [If alias is intended for the value of an aggregate function, then must use that function] | MUST be AFTER GROUP BY [No group by, no having] | Option-al, **ON CONDI-TION** of Group By | No GROUP BY, no HAVING!! |
| 6 | ORDER BY | Sorts the result according to specified criteria on named fields | Fields[Multiple fields: primary sort, secondary sort, etc] | Alias [If alias is intended for the value of an aggregate function, then must use that function] | ALWAYS the last clause | Optional |  |