SQL History

• *A Relational Model of Data for Large shared Data Banks* by Dr. E. F. Codd in 1970

• *SQL* created by Donald Chamberlin and Raymond Boyce at IBM in early 1970’s

• *Standardized by ANSI in 1986, first version called SQL-86*

• *DML focus, changes contents of database (SELECT, UPDATE)*

• *Support for embedded SQL*

• *Criticized for not being orthogonal*
SQL-89

• Was a minor revision
• Embedded SQL support for C and ADA
• Support for DDL which manipulates the schema of a database (create table, create view)
• Lots of integrity checks added
• Defined Primary keys, check constraints and referential integrity
SQL-92

• Added more support for DDL (ALTER, DROP)
• New data types (Date and Time)
• Improvements to Orthogonality
  • Allowed to use subqueries
• New set operations (natural join, set difference)
• Attempts to be backwards compatible
SQL-1999

• New data types – Boolean, Array
• Use of Predicates (IN, BETWEEN, LIKE)
• Recursive Queries
• Triggers
• Objects
  • User defined types
  • Typed tables
SQL:2003

• Built in scalar functions (power, max)
• MERGE statement
• Sequence generator generator
• Support for XML
SQL:2006

- Improvements in XML support
- Integration of XQuery
SQL:2008

- Updated MERGE
- Truncate table
- INSTEAD OF trigger
- More Xquery support
SQL:2011

• Temporal database support
• Valid time
• Transaction time

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<tr>
<th>EmpID</th>
<th>Name</th>
<th>Department</th>
<th>Salary</th>
<th>Valid Time Start</th>
<th>Valid Time End</th>
</tr>
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<tbody>
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<td>Research</td>
<td>11000</td>
<td>1985</td>
<td>1990</td>
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<tr>
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