

# Database modeling

Primary Keys

# Natural Key

Book

| ISBN       | Title                         | ReleaseDate | ListPrice | ... |
|------------|-------------------------------|-------------|-----------|-----|
| 1596717521 | JavaScript Essential Training | 6/1/2011    | \$149.95  |     |
| 321158814  | Building Rich Internet Apps   | 3/2/2003    | \$39.95   |     |
| 765359146  | Red                           | 11/1/2008   | \$7.95    |     |

# Natural Key

Book

| ISBN       | Title                         | ReleaseDate | ListPrice | ... |
|------------|-------------------------------|-------------|-----------|-----|
| 1596717521 | JavaScript Essential Training | 6/1/2011    | \$149.95  |     |
| 321158814  | Building Rich Internet Apps   | 3/2/2003    | \$39.95   |     |
| 765359146  | Red                           | 11/1/2008   | \$7.95    |     |

# Natural Key

Book

| ISBN       | Title                         | ReleaseDate | ListPrice | ... |
|------------|-------------------------------|-------------|-----------|-----|
| 1596717521 | JavaScript Essential Training | 6/1/2011    | \$149.95  |     |
| 321158814  | Building Rich Internet Apps   | 3/2/2003    | \$39.95   |     |
| 765359146  | Red                           | 11/1/2008   | \$7.95    |     |

Primary Key (PK)  
(**natural** key)

# Surrogate Key

Customer

|           |          |       |         |     |
|-----------|----------|-------|---------|-----|
| FirstName | LastName | Email | Address | ... |
|-----------|----------|-------|---------|-----|

# Surrogate Key

## Customer

|            |           |          |       |         |     |
|------------|-----------|----------|-------|---------|-----|
| CustomerID | FirstName | LastName | Email | Address | ... |
|------------|-----------|----------|-------|---------|-----|

# Composite Key

Yearbook

| School              | Year | ListPrice | PageCount | UnitsInStock | ... |
|---------------------|------|-----------|-----------|--------------|-----|
| Orchard High        | 2010 | \$29.95   | 144       | 32           |     |
| Orchard High        | 2011 | \$34.95   | 132       | 14           |     |
| Lawstone Elementary | 2010 | \$29.95   | 161       | 0            |     |
| Lawstone Elementary | 2011 | \$29.95   | 155       | 38           |     |
| Lawstone Elementary | 2012 | \$34.95   | 172       | 144          |     |
| ...                 |      |           |           |              |     |

# Composite Key

Yearbook

| School              | Year | ListPrice | PageCount | UnitsInStock | ... |
|---------------------|------|-----------|-----------|--------------|-----|
| Orchard High        | 2010 | \$29.95   | 144       | 32           |     |
| Orchard High        | 2011 | \$34.95   | 132       | 14           |     |
| Lawstone Elementary | 2010 | \$29.95   | 161       | 0            |     |
| Lawstone Elementary | 2011 | \$29.95   | 155       | 38           |     |
| Lawstone Elementary | 2012 | \$34.95   | 172       | 144          |     |
| ...                 |      |           |           |              |     |



# Primary Keys

1. Natural Key
2. Surrogate or synthetic Key
3. Composite Key