Access™ 2010 Introduction

Working with Database Files
To open a database:
2. [Click] RECENT on the left side BACKSTAGE VIEW pane for a larger list of recently opened files or, to browse for a database, [Click] OPEN, or press <Ctrl-O>.

To create a new database:
1. [Click] FILE then NEW and choose a database template or category. Use templates to maintain proper database relationships or use BLANK DATABASE to start from scratch.
2. Type a FILE NAME in the right pane. If desired, [Click] to change the location.
3. [Click] CREATE.

Defining Access Objects
Table – a collection of related data stored in records (rows) and fields (columns).
Record – row of data. A record contains a group of fields that are related.
Field – refers to a single piece or column of data.
Query – used for searching, analyzing, calculating or summarizing data from one or more data sources. Queries can also be the database source for forms and reports.
Form – used for viewing, entering and editing table or query data. Good form design makes data entry easier.
Report – used for viewing tables or query data in printed format. Supports fine control over data presentation including the ability to group and summarize related data.
Macro – used to automate tasks.
Module – a collection of Visual Basic® for Applications (VBA) procedures used to customize and enhance Access applications.

Adding a Record
1. [Click] in the navigation area at the bottom left of a table, or [Click] in the blank record at the table bottom, or press <Ctrl-1>.
2. Type data into each field. Press <Tab> or <Enter> to move to the next field. When you press <Tab> or <Enter>, the last field in the cursor is placed in a new, blank record.

Editing Fields and Records
1. [Click] in the field to edit, or press <F2> to enter edit mode. Use a zoom window to edit longer entries by pressing <Shift-F2>.
2. Use normal word processing editing techniques. Note: a pencil icon appears in the left margin to indicate that changes are made but not yet saved.
3. Access automatically saves record changes when you move to another record. To save at any time, press <Shift-Enter>.

Undoing Changes
While in edit mode, [Click] top left of Access) or press <Esc> to remove current field changes. Repeat the [Click] to remove changes to the entire record. Neither action is reversible.
Caution: If there are no current field changes, Access undo changes to the entire record and will remove an entire new record without prompting.

Deleting Records
1. [Click] the record selector to the left of a record. - [Shift] or <Drag> to select multiple records.
2. Choose HOME, then [Delete], or press <Del>.
3. [Click] YES to confirm.
Caution: This cannot be undone.

The Datasheet Window
Tables open in Datasheet View by default with the layout of records and fields resembling a spreadsheet's rows and columns. The active field displays a cursor and a yellow border. The current record number is shown in the navigation area at the bottom.

Quickly Sorting a Table
[Right Click] anywhere in the field you wish to sort by, and choose SORT A TO Z or SORT Z TO A. Or [Click] on the field heading and choose a sort order.

Searching for a Record
1. [Click] in the desired field, or press <Ctrl-F>.
2. Choose HOME, then FIND, or press <Ctrl-F3>.
3. Type the data to search for in the FIND WHAT box.
If searching for a fragment of a word or a portion of a field, set the MATCH field to ANY PART OF FIELD or START OF FIELD (slower).
If searching for data in more than one field, set the LOOK IN option to the table name (slower).
4. [Click] FIND NEXT. If SEARCH is set to ALL or DOWN, Access will search from the current record forward. To search backward, change the SEARCH option to UP.
5. [Click] CANCEL when finished.

Movement Shortcuts
<table>
<thead>
<tr>
<th>To move to...</th>
<th>Keyboard</th>
<th>Mouse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next or previous record</td>
<td>↓ or ↑</td>
<td>[Click] or [ or ]</td>
</tr>
<tr>
<td>One screen down or up</td>
<td>Page Down or Page Up</td>
<td>Select the number in the Navigation Area.</td>
</tr>
<tr>
<td>Top, left or bottom, right of table</td>
<td>Ctrl-Home or Ctrl-End</td>
<td>[Click] or [ or ]</td>
</tr>
<tr>
<td>First or last record</td>
<td>Ctrl-Enter or Ctrl-↓</td>
<td></td>
</tr>
<tr>
<td>A specific record number</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One column to right or left</td>
<td>Tab or Shift-Tab</td>
<td>Type record number, press [Enter]</td>
</tr>
<tr>
<td>Position in left- or rightmost field</td>
<td>Home or End</td>
<td></td>
</tr>
<tr>
<td>Switch between open documents</td>
<td>Ctrl-F6 or Shift-Ctrl-F6</td>
<td>[Click] the tab e.g.</td>
</tr>
</tbody>
</table>

Data Entry Shortcuts
| To enter current date or time | Ctrl-; or Ctrl:- |
| To copy from a previous record into the current field | Ctrl-C |

Smart Database Design
A well designed database minimizes data entry steps while preserving data accuracy. It stores a single fact only once and makes it available for multiple uses. It also keeps related facts together in logical groupings (tables).

- Tables – Determine the purpose of your database (e.g. order tracking) then decide which subjects need to be tracked (e.g. suppliers, products, customers, orders, etc.). Each subject will become a table in your database.
- Fields – Divide subjects into their smallest logical parts — customer addresses into street, city, etc. If you want to sort or search by a smaller subpart then the part still needs to be subdivided. Parts will become fields of a table. Relate these fields directly to each other and to the table as a whole (e.g. Orders should contain items and quantities but not names).
- Duplicates – Do not duplicate fields within a table (e.g. Extract order items to an order details table to prevent duplicating them in a record or duplicating customer data between records) and between tables (deleting an order should only delete related order data).
- Calculations – Add derived or calculated data to a query, not a table. For example, add price and quantity fields to the Orders table but calculate total orders [price * quantity] in a query.
- Primary Keys – Find a field that uniquely identifies each record in a table and designate it as a Primary Key (see Primary Keys and Links). Customer numbers uniquely identify each customer making CustomerNo, the customer number field, a good candidate.
- Review – Enter data then review the design. Remove unnecessary blank tables and transfer fields with duplicate data to new or existing tables.

Query Grid Criteria Examples

<table>
<thead>
<tr>
<th>Text</th>
<th>Simple type the text you want to match and surround it with double quotes (&quot;), or type any of several potential entries (words or phrases) use ORs in or in &quot;smith&quot; OR &quot;jones&quot;. Use NOT to exclude a word as in NOT &quot;smith&quot;. LIKE plus ** matches text with a particular letter or phrase. The placement of the asterisk determines which part of the phrase is considered &quot;wild&quot;: Like &quot;smith&quot; matches all records starting with smith; Like &quot;**smith&quot; matches all records ending with smith; Like &quot;smith&quot; matches all records having smith somewhere in the middle.</th>
</tr>
</thead>
</table>

| Numbers | Enter number alone or with modifiers: <20 (less than 20), >20 (greater than 20), or (not equal to 20), Between 20 and 30 matches all numbers between 20 and 30 inclusive. |
| Dates | Type the date to be matched in short format and surround it with number signs (#). #3/24/10# matches March 24, 2010. Remember numbers work with dates including Between #3/24/10# and #3/31/10# for the inclusive range March 24 to March 31, 2010. Use Date() for today's date. |
| Empty Data | Use Is Null to find empty data and Is Not Null for non-empty data |

Database File Format
Access 2010 can fully use and modify databases using 2000, 2002-2003, 2007 and 2010 file formats. The file format of the current database is shown in the title bar of the database window. To convert to another format: Choose FILE then SAVE AND PUBLISH. In the SAVE DATABASE AS & DATABASE FILE TYPES section select the desired format then [Click] SAVE AS. Type a file name and [Click] SAVE.

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Creating a Table
1. Choose CREATE, then TABLE [ ].
2. [Click] the CLICK TO ADD heading, select a field type, enter the field name and press <Enter>. Select the next field type. Repeat until all fields have been added. See a list of data type descriptions by pressing <F1> and searching for Introduction to data types and field properties.
3. Choose FILE, SAVE, or [Click] [ ], or press <Ctrl-S>. Type a name, up to 64 characters, then [Click] OK.
To create a table from a template:
1. Choose CREATE, then APPLICATION PARTS [ ].
2. Select a QUICK START item then follow the wizard.

Primary Keys and Links
Primary Key fields are used to uniquely identify each record in a table because neither duplicates nor blanks are allowed. This uniqueness is essential to creating links, or relationships, between tables (and queries). These links allow one table’s data to be referenced by another instead of being repeated. Customers and their Orders can be linked together if the CustomerNo field is set as Primary Key in Customers and an identical CustomerNo field inserted into Orders (but not designated as Primary Key). Full customer details can then be retrieved from Customers instead of being reentered into Orders. Primary Key fields are also automatically sorted thereby speeding retrieval of large table data.

To Set/Remove Primary Keys:
1. Open the Design View of a table.
2. Select the field(s) to set/remove then choose TABLES, DESIGN, then PRIMARY KEY [ ].

To Set/Remove Table Links:
- Use the Relationships window (DATABASE TOOLS > RELATIONSHIPS) or the query design window to create links by dragging a field from one table window to the identical field of another (see Creating or Modifying a Query).
- To remove a link, [Right Click] it and choose DELETE.

Using Design View to Create or Modify a Table
Use Design view to specify field properties such as size, format, input mask, default value, and more:
1. For a new table, choose CREATE , then TABLE DESIGN [ ].
2. To modify an existing table, choose HOME or TABLES, FIELDS, then [Click] VIEW [ ].
3. [Click] view then select DESIGN VIEW.
4. Type a FIELD NAME up to 64 characters. Spaces are not recommended — Use underscores to separate words.
5. Press <Tab> and, if necessary, select a different DATA TYPE from the drop-down list. [Click] the data type then press <F1> to see a list of type descriptions.
6. Optionally, explain the purpose with a DESCRIPTION.
7. In the lower half FIELD PROPERTIES section, set the FIELD SIZE, FORMAT and any other required properties. The INDEXED property can be used for both automatic sorting and prevention of duplicate entries.
8. Repeat steps 2 through 5 to add more fields.
9. Access automatically inserts ID as the first field and designates it as a Primary Key [ ].

Primary Key fields are critical elements so keep this field but rename it to something more descriptive. If the table’s name is Customers, for example, you could change the field name to CustomerID. If you choose to remove this field by [Right Clicking] in the row and selecting DELETE ROWS then select another field that uniquely identifies each record in the table and set it as PRIMARY KEY.
10. Choose FILE, SAVE, or [Click] [ ], or press <Ctrl-S>. Type a name for the table, then [Click] OK.
11. To begin entering table data, switch to datasheet view by [Clicking] [ ] then selecting DATASHEET VIEW.
12. Close the table window when finished.