<table>
<tr><th>Topic</th><th>Narrative</th><th>Examples and Comments</th></tr>
<tr>
<td>RDBMS – acronym for

Relational Database Management System</td>
<td>
<table>
<tr><th colspan="2">RDBMS Terms</th><th colspan="2">Legacy Terms</th></tr>
<tr><td>Relation</td><td>≈</td><td>Table</td><td>File</td></tr>
<tr><td>Tuple</td><td>≈</td><td>Row</td><td>Record</td></tr>
<tr><td>Attribute</td><td>≈</td><td>Column</td><td>Field</td></tr>
</table>
Relational refers to the requirement that every Attribute (column, field) in the Relation (table) relates to the subject of the Relation (table).
</td>
<td>Relation, Tuple and Attribute are the correct terms but the legacy terms are used by most users.

MS Access uses legacy terms extensively and most authors use the terms interchangeably. This can create confusion for students.</td>
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<td>Technical Definition of a Relation</td>
<td>Data tables that conform to the following rules are called Relations:

The table has a Single Subject
Each row is unique
Each column has a unique name
All data in the column is of the same type
Data is stored in atomic form
Both rows and columns may be reorder without lost of identity

The uniqueness of table, row, and column allows for discrete storage and retrieval of data.</td>
<td>All Relations are tables but most tables are NOT Relations in technical terms

Atomic data is a set of characters that can not be reduced without loosing the meaning of the symbols.

Example: The address

4700 Oak Ave

Street number is stored separately from the street name
<table>
<tr><th>Number</th><th>Name</th></tr>
<tr><td>4700</td><td>Oak Ave</td></tr>
</table>
</td>
</tr>
<tr>
<td>Access Objects

Covered in CISA 320</td>
<td>Tables- Relation is correct term

Queries – can select and display the content of tables and other queries

Forms - Displays on a monitor field (attributes) from selected tables and queries

Reports – produce a view of selected fields that may be printed in hard copy.</td>
<td>Access is an object oriented product.

Objects are capable of storing data and instructions on how to act on that data.</td>
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<td>File Management</td>
<td>Access is designed for permanent disk environments and use of removable media can pose special problems.</td>
<td>Tools | Database Utilities

These features are important</td>
</tr>
<tr>
<td>Properties</td>
<td>This is the feature of objects that permits alteration in how the data is viewed. Properties may also be use to control what data is acceptable and how it is processed.</td>
<td>Properties are a consistent feature of object orientated. Data type is the minimum property of each attribute.</td>
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</table>

Data Types	Every attribute (field) in a table must have a data type. The default is text with a size of 50	Data type dictates how the DB will store and process data.
Domain	Rules that define what data can be stored in a field (attribute) establish the domain.	Validation rules and data type are used in defining the domain.
Field Naming Convention	**Field Names** (attributes) should use the camel convention without spaces.	Example: **LastName** without a space and a capital letter to start each word.
Object Prefixes	For this course prefixes are required for Access objects. The use of prefixes is an industry wide accepted practice	**tbl**, for Tables **qry** for Queries **frm** for Forms **rpt** for Reports **mac** for Macros **bas** for Modules
Attributes / Column Names	All Attributes / Column names must be spelled correctly with spaces between words. Use the Caption Property to create the heading.	**LastName** is a correct Field Name but NOT acceptable as a column heading Use CAPTION Property Last Name
Format & Input Masks	Format properties control the appearance of data. Input mask controls the display of the field when data is being entered to a table.	mm/dd/yy is a date format Input Mask Wizard Short Date is a Input Mask
Importing and Linking	Access supports importing of data created by other applications. Imported data is stored in a database table and may be edited and deleted. Access will link to several popular databases and certain text files. Linked data may be viewed and used by Access objects but the data may not be altered in any way.	Right click in the white space of the Database window or Select FILE | Get External Data Select the correct file type and answer the Wizard prompts
Common Fields	When the same data is stored in two different relations (tables) these fields are call Common Fields. Identifying Common Fields is the first step in connecting (Joining) two relations. (tables)	The name of the fields (attributes) may be different. The Data Type and data stored must be the same.
Connecting Tables	Common fields that contain the same data must be present for two tables to be JOINED. The data type and content of the fields must be the same. The names of the field can be different.	Connecting Tables

Primary Keys	Each tuple (row) in a relation (table) must be unique. One or more attributes (fields) that are different from all others is designated as the Primary Key	If two or more attributes are needed to create the unique identity the term Composite Primary Key is used.
Foreign Key	A common attribute (field) in one relation (table) that joins to the primary key in another relation (table).	
Referential Integrity	Data consistency between two tables may be achieved by use of referential integrity. The most common rule is one to many.	This feature is typically accessed via the Tool |Relationship selection.