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Course: CMTP 308N Database Systems

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Lab #1

Data. vs Information

What is data? According to the dictionary.com data is defined as “Facts and statistics collected together for reference or analysis” or “The quantities, characters, or symbols on which operations are performed by a computer, being stored and transmitted in the form of electrical signals and recorded on magnetic, optical, or mechanical recording media” (dictionary.com 9/10/16). What is information? Information is defined as “A signal or character (as in a communication system or computer) representing data” (<https://www.merriam-webster.com> 9/8/17). In today’s world, data is collected through the day every hour of the day and stored in a database management system. Then the data become useful information to organizations around the world.

Some of the most popular software on the market today that help manages database system is Microsoft excel, Microsoft SQL, MYPHP, Oracle e12, and PostgreSQL. These database systems are used in organizations to store, manage, and manipulate data in to useful information using deferent kinds of data models; however, some database software is more robust than others. For example. Microsoft excel is mostly used in small business while software package like Microsoft SQL and PostgreSQL is used in large organization because of their database function. Unlike Microsoft excel, Microsoft SQL, and Oracle as a relation function and have the ability to upscale on demon, reduce redundancy, and duplication.

A data model is used to organize data by connecting data and define how the data should be processed and stored inside a DBMS. Older system used the hierarchical and network data model while new systems today used relationship database structure. For example, “The hierarchical DBMS is used to model one-to-many relationships, presenting data to users in a treelike structure” with a parent and child relationship while the network model, “Typical has a many-to-many relationship for a network DBMS is the student–course relationship” (<http://wps.pearsoned.co.uk>). However, the hierarchical and network data model is less flexible, don’t support ad hoc, and no longer used to design new applications compare to your new relationship data model.

Work cites

1. <https://www.merriam-webster.com/dictionary/information> 9/8/17
2. https://www.google.com/search?q=data&rlz=1C1GGGE_enUS377&oq=data&aqs=chrome..69i57j69i60l2j69i61j69i59j69i65.808j0j7&sourceid=chrome&ie=UTF-8
3. http://wps.pearsoned.co.uk/wps/media/objects/14157/14497116/Learning_Tracks/Ess10_CH05_LT3_Hierarchical_and_Network_Data_Models.pdf

The screenshot shows the pgAdmin 3.5.5 interface. On the left, the 'Object browser' displays the server structure for 'PostgreSQL 9.5 (localhost:5432)', including databases, catalogs, event triggers, extensions, schemas, collations, domains, PTS configurations, PTS dictionaries, PTS parameters, PTS templates, functions, sequences, tables, trigger functions, views, tablespaces, pg_dblink, pg_global, group roles, login roles, and postgres. The 'Properties' pane shows the 'Table' properties for the 'postgres' database. The 'Query Editor' window displays a SQL query that inserts data into the 'Customers' and 'Agents' tables. The 'Output pane' shows the results of the query, including a table with columns: orderno, month, cid, ad, pid, quantity, totalusd, and numers(12,2).

orderno	month	cid	ad	pid	quantity	totalusd	numers(12,2)
1	1011	Jan	c001	a01	p01	1100	495.00
2	1012	Jan	c002	a03	p03	1200	1056.00
3	1015	Jan	c003	a03	p05	1000	920.00
4	1016	Jan	c006	a01	p01	1000	500.00
5	1017	Feb	c001	a06	p03	500	540.00
6	1018	Feb	c001	a03	p04	600	540.00
7	1019	Feb	c001	a02	p02	400	180.00
8	1020	Feb	c006	a03	p07	600	600.00
9	1021	Feb	c004	a06	p01	1000	457.50
10	1022	Mar	c001	a05	p06	450	810.00
11	1023	Mar	c001	a04	p05	500	450.00
12	1024	Mar	c006	a06	p01	880	400.00
13	1025	Apr	c001	a05	p07	888	799.20
14	1026	May	c002	a05	p03	808	711.04

The screenshot shows the pgAdmin 3.5.5 interface with the 'Properties' pane selected. The 'Properties' pane displays the configuration for the 'PostgreSQL 9.5 (localhost:5432)' server. The 'pgAdmin PostgreSQL Tools' logo is visible in the background.

Property	Value
Description	PostgreSQL 9.5
Service	
Hostname	localhost
Host Address	
Port	5432
Encryption	not encrypted
SSL Certificate File	
SSL Key File	
SSL Root Certificate File	
SSL Certificate Revocation List	
SSL Compression?	no
Service ID	postgres-v64-9.5
Maintenance database	postgres
Username	postgres
Store password?	No
Restore environment?	No
Version string	PostgreSQL 9.5.8, compiled
Version number	9.5
Last system OID	12368
Connected?	Yes
Up since	8/28/2017 11:37:03 PM
Configuration loaded since	8/28/2017 11:37:03 PM
Autovacuum	running
In recovery	no
Last XLOG receive location	
Last XLOG replay location	
Last XACT replay timestamp	
Replay paused	