Byyclase

PostgreSQL DBMS Test

Name: _____

UB Number: _____

CIRCLE THE BEST ANSWER - 32 Points

INTRODUCTION TO POSTRESQL (13 pts)

Q0: A Company MEDIS SARL need an advanced database but have limited budget. Why would you ever go for PostgreSQL instead of Oracle? (2 pts)

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Q1: What kind of database management system is PostgreSQL? (1 pt)

a) DBMS
b) RDBMS
c) ODBMS
d) ORDBMS

Q2: Suppose you have a database employees installed in a remote PostgreSQL database, how could you connect to employees? (1 pt)

a) psql remoteip -d movies
b) psql -p movies
c) psql -c movies -h localhost
d) psql -h remoteip -d movies

Q3: MVCC is one of the advanced features of PostgreSQL. What is the meaning of MVCC? (1 pt)

a) Multi Variance Control Concurrency
b) Multi Variance Concurrency Control
c) Multi Value Column Control
d) Minimum Version Concurrency Control

Q4: What is the difference between a view and a creating a table using CREATE TABLE ... AS? (1 pt)

a) A view is in sync with a table while a CREATE TABLE ... AS is a snapshot.
b) A view is temporal while a CREATE TABLE ... AS is permanent.
c) Views are only accessible from the current Postgre Session while CREATE TABLE ... AS are accessible from any session.
d) None of the above

Q5: Which of the following are correct for inserting TEXT data type? (Select two) (2 pts)

a) 'Where's my car?'
b) $$Where's my car?$$
c) 'Where''s my car?'?
d) "Where''s my car?"

Q6: What is the output of 10 & 21(1 pt)

a) 11

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change to binary and compare then

b) 0
c) 31
d) 001011

Q7: What data type in PostgreSQL do you use to store large objects > 1Go? (1 pt)

a) BLOBs (Binary Large Objects)
b) BYTEA ⇒ stores any type of data but it's not ~~more than~~ exactly equal to 1G
c) OID
d) lo_import()

Q8: What is the difference between a SERIAL and a SEQUENCE? (1 pt)

a) A SERIAL is an object while a SEQUENCE is a data type.
b) A SERIAL is more dynamic than a SEQUENCE.
c) A SEQUENCE is an object while a SERIAL is a data type.
d) None of the above

Q9: Practically speaking, identifying a column as PRIMARY KEY and NOT NULL UNIQUE is the same. So what's the difference? (1 pt)

a) There can only be one PRIMARY KEY column while there can be multiple NOT NULL UNIQUE columns.
b) They are actually the same.
c) PRIMARY KEYS can implement references while NOT NULL UNIQUE can't.
d) a) and c)

Q10: Suppose you want to create a new data type that can only store numbers with the given format: (+111)11111111. Which command is correct? (1 pt)

a) CREATE TYPE phone AS CHAR(14) CHECK (VALUE ~ '^(\+\d{3}\)\d{8}$') ← Every data should begin with a plus
b) CREATE DOMAIN phone AS CHAR(15) CHECK (VALUE ~ '^(\+\d{3}\)\d{8}$') ← \d{3} Expecting a digit 3 times, \d{8} 8 digits
c) CREATE TYPE phone AS CHAR(14) CHECK (VALUE ~ '^(\+\d{3}\)\d{8}$') ← ( ) put a bracket

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POSTGRESQL SQL SYNTAX AND USE (19 pts)

Q11: Give an example of a (3 pts)

a) Comment in Postgres: COMMENT ON [object type] [object name] IS '';
b) View Comment: \dd
c) Delete Comment: COMMENT ON [object name] IS NULL

add to view a comment

Q12: $PGDATA environment variable points to (1 pt)

a) Database
b) Schema
c) Cluster
d) Tablespace

Q13: You decide to save your Postgres tables in another location on your Linux console. You create an empty directory /TSPACE then issue the CREATE TABLESPACE command that fails. What could be the possible cause? (2 pt)

a) You are the superuser
b) Your system doesn't support symbolic links
c) The directory is not owned by postgres
d) You are connected remotely

Already has symbolic links

Q14: You work for a Chinese company BLUE INC. You decide to create a database to hold Chinese characters. What will you do differently when creating the database? (1 pt)

a) Give the database a Chinese name
b) Choose Template0 when creating the database

c) Create a new tablespace and create the database in that tablespace

d) Change the encoding when creating the database

Q15: You are in the process of creating tables for your database and you realize that you need kind of a scrapbook so that you only create the table when you are sure everything is absolutely ok. What do you do? (1 pt)

a) Create temporal tables

b) Create Views

c) Get a pen and a paper for scrap

d) Create the tables, drop them if you made an error and recreate them.

Q16: You are a new DBA in a company and you are going through the table definitions in the Company Database. What kind of constraint is defined below?

```
(
  customer_number    INTEGER,
  part_number        CHAR(8),
  quantity_ordered   INTEGER,
  price_per_part     DECIMAL(7,2),
  CONSTRAINT verify_minimum_order
   CHECK (( price_per_part * quantity_ordered) >= 5.00::DECIMAL )
);
```

(1 pt)

a) Column Constraint

b) Database Constraint

c) Schema Constraint

d) None of the Above

Q17: You have just implemented inheritance between two tables in your database. T1 is the parent and T2 is the child. What additional information will you add in T2 that wasn't inherited from T1? (1 pts)

a) Custom Types

b) Tablespace Location

c) Indexes

d) Sequences

Q18: The Manager in the Company you work for suddenly changes his mind and decide to store the ID card numbers of all his employees. As a DBA, what change is required in the database? (1 pt)

a) An UPDATE table command

b) An ALTER table command

c) Dropping and creating a new table that stored ID card numbers

d) Creating a view with ID card numbers.

Q19: What column is a perfect candidate for an index? (1 pt)

a) A column that we seldom read or write

b) A Column that we frequently write and seldom read

c) A row that we frequently read and seldom write

d) None of the above

Q20: What kind of index is defined below

```
CREATE INDEX customer_exchange ON customers ( get_exchange( phone ))
WHERE
get_exchange( phone ) = '235'
OR
get_exchange( phone ) = '236'
OR
get_exchange( phone ) = '237';
```

(1 pt)

a) Partial Index

b) Functional Index

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c) Full Index

d) a and b

Q21: One of the new unique features of PostgreSQL is that you can define a column as n array. Which of the following statements about arrays is incorrect (1 pt)

a) CREATE TABLE customers (employee_id INTEGER UNIQUE, monthly_balances INT[12]);

b) CREATE TABLE customers (employee_id INTEGER UNIQUE, monthly_balances INT[1][2][3][4][5])

c) CREATE TABLE customers (employee_id INTEGER UNIQUE, monthly_balances INT[]).

d) After the command INSERT INTO Empolyees (employee_id, employee_name, monthly_balances[3]) VALUES (21, 'Samuel Boney', '{300}'); on a table, the command SELECT employee_name, monthly_balances FROM customers WHERE employee_id = 21; returns {"300"}

Q22: Explain the following: In a sample Database, two tables have the same name. (1 pt)

a) Not possible

b) They belong to different CLUSTERs

c) They belong to different SCHEMAS

d) All of the above

Q23: Like most network-capable database systems, PostgreSQL fits into a client-server paradigm. Which of the following is the heart of the server backend? (1 pts)

a) Postmaster

b) Psql

c) Schema

d) TCP/IP

e) None of the above

Q24: Consider a table with columns as defined. (id int, title text, publication varchar(30)). Suppose your boss tells you to remove the publication column. How would you go about doing this? (3pts)

ALTER TABLE tablename DROP COLUMN COLUMNNAME.

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