**Descriptive Questions for Exam**

**Q1. Define primary and foreign key?  
Ans:**

**Primary key: A primary key is used as a unique identifier for each record in a database table and is essential when working with relational tables. Each row of data in a table is uniquely identified by a primary key (PK). PK can’t be NULL, changed and duplicate values.**

**Foreign key: A foreign key identifies a column (or a set of columns) that refers to a primary key in the another table. A foreign key value must match an existing primary key value or unique key value.**

**Q2. What is Database?**

**Answer:**

**Databases are used daily by large corporations, small business and individuals, often without people realizing they are using a database.**

**A collection of all tables under a single or many different schemas can be stored and maintained in a database.  A database, in effect, is a collection of objects such as tables, indexes, stored procedures, etc**

**Q3. What is an ambiguous column?  
Answer:**

**An ambiguous column is a column that is not defined clearly. Having two tables with the same column name, we should reference them such that there is no ambiguity on their ownerships.**

**To avoid ambiguity we need to qualify the names of the columns with the table name.**

**Q4. What is a Cartesian product?**

**Answer:**

**When a join condition is invalid or omitted completely, the result is a Cartesian product, in Which all combinations of rows are displayed. All rows in the first table are joined to all rows in the second table.**

**A Cartesian product tends to generate a large number of rows, and the result is rarely useful.**

**Q5. What is an inner join or Equi-join?**

**Answer:**

**An equijoin is a join with a join condition containing an equality operator. An equijoin combines rows that have equivalent values for the specified columns. That returns only those rows that satisfy the join condition. This type of join is called inner join or Equi-join.**

**Q6. What is a self join?**

**Answer:**

**A self join is a join of a table to itself. This table appears twice in the FROM clause and is followed by table aliases that qualify column names in the join condition.**

**For example,**

**SELECT e.last\_name emp, m.last\_name mgr**

**FROM employees e JOIN employees m**

**ON (e.manager\_id = m.employee\_id);**

**Q7. What is the difference between the delete statement and the truncate statement?**

**Answer:**

**The DELETE command is a DML statement. When you type DELETE all the data get copied into the Rollback tablespace first then delete operation get performed. That’s why when you type ROLLBACK after deleting a table you can get back the data (the system gets it from the Rollback).**

**The TRUNCATE command is a DDL statement. When you type TRUNCATE, it removes data directly without copying it into the Rollback tablespace. Once you TRUNCATE you can’t get back the data.**

**Q8. What are the advantages of view?**

**Answer:**

**- Provide an additional level of table security, by restricting access to a predetermined set of rows and columns of a table.**

**- Hide data complexity.  
- Simplify commands for the user.  
- Present the data in a different perspective from that of the base table.  
- Store complex queries.**

**Q9. What is the inline view in the Oracle SQL statement?**

**Answer:**

**A subquery in the FROM clause of a SELECT statement is called an *inline* view.**

**For example ,**

**SELECT name, id from employees  
where salary = (select salary from employees where id= 100);**

**Q10. What does the UNION statement in the SQL statement?  
Answer:**

**UNION is a set operator which is also called compound queries. The UNION operator returns all rows that are selected by either query. Use the UNION operator to return all rows from multiple tables and eliminate any duplicate rows.**

**11. Why it is important to eliminate duplicate records?**

**Answer:**

**The important to eliminate duplicate records are following –**

1. **It stops the repetition of data.**
2. **It is a good idea to regularly remove duplicate data**
3. **It will provide unique result in the result set**
4. **To eliminate duplicate record we can remove any redundant row.**

**Syntax: select DISTINCT (column) From table**

**12. What is Schema?**

**Answer:**

**Schema is a document , or more specifically, database document which defines tables, columns(fields), indexes etc contained in the corresponding database. Actually schema diagrams the overall structure of a database.**

**13. What is an Oracle sequence?**

**Ans:**

**A sequence is a user-created database object that can be shared by multiple users to generate integers. A typical usage for sequences is to create a primary key value, which must be unique for each row. The sequence is generated and incremented (or decremented) by an internal Oracle routine. This can be a time-saving object because it can reduce the amount of**

**Application code needed to write a sequence-generating routine.**

**14. What is a synonym?**

**Ans :**

**Synonyms are database objects that enable us to call a table by another name. We can create synonyms to give an alternative name to a table.**

**With synonym, we can:**

* **Create an easier reference to a table that is owned by another user.**
* **Shorten tengthy object names.**

**Command:**

**CREATE (PUBLIC) SYNONYM synonym**

**FOR object;**

**15. What is an Oracle index?**

**Ans:**

**Indexes are database objects that you can create to improve the performance of some queries. Indexes can also be created automatically by the server when you create a primary key or unique constraint. There are two types of indexes—1. Unique index and 2. Non-unique index.**

**16. What is a join? Explain the different types of joins?**

**Ans:**

**A join is used to view information from multiple tables. Therefore, we can join tables together to view information from more than one table.**

**Types of join: we can divided the join into two types-**

1. **Oracle-proprietary joins (8i and earlier releases)**
2. **Equijoin.**
3. **Non-equijoin.**
4. **Outer join.**
5. **Self join.**
6. **SQL: 1999-compliant joins.**

**a. Cross join.**

**b. Natural join.**

**c. Using clause join.**

**d. Full (or two-sided) outer join.**

**e. Arbitrary join condition for outer join.**

**17. What is the sub-query?**

**Ans:**

**A subquery is a SELECT statement that is embedded in a clause of another SELECT statement. The subqurey (inner query) executes once before the main query (outer query).**

**We can place the subquery in a number of SQL clauses, including the following:**

1. **WHERE clause. 2. HAVING clause. 3. FROM clause.**

**18. What is referential integrity constant?**

**Ans:**

**Relational database management system(RDBMS) must have to have primary key and foreign key(primary key referenced from other table in the database) and the primary key must be unique.**

**This relationship between primary key and foreign key is called referential integrity constraints. Usually referential integrity constraints is maintained between data entity .**

**19. What is the usage of SAVEPOINTS?**

**Ans:**

**We can control the logic of transactions by using the COMMIT, SAVEPOINT, and**

**ROLLBACK statements. SAVEPOINT marks a savepoint within the current transaction.**

**We can create a marker in the current transaction by using the SAVEPOINT statement,**

**which divides the transaction into smaller sections. We can then discard pending changes**

**up to that marker by using the ROLLBACK TO SAVEPOINT statement. We can create multipole**

**SAVEPOINT statement as well.**

**20. What is ON DELETE CASCADE?**

**Answer:**

**ON DELETE CASCADE is a keywords of FOREIGN KEY. Deletes the dependent rows in the child table when a row in the parent table is deleted.  
Without the ON DELETE CASCADE , the row in the parent table cannot be deleted if is referenced in the child table.**

**21.What are the data types allowed in a table?**

**Ans:**

**The data types allowed in a table are:**

|  |  |
| --- | --- |
| **Data Type** | **Description** |
| **VARCHAR2(*size*)** | **Variable-length character data** |
| **CHAR(*size*)** | **Fixed-length character data** |
| **NUMBER(*p*,*s)*** | **Variable-length numeric data** |
| **DATE** | **Date and time values** |
| **LONG** | **Variable-length character data (up to 2 GB)** |
| **CLOB** | **Character data (up to 4 GB)** |
| **RAW and LONG RAW** | **Raw binary data** |
| **BLOB** | **Binary data (up to 4 GB)** |
| **BFILE** | **Binary data stored in an external file (up to 4 GB)** |
| **ROWID** | **A base-64 number system representing the unique address of a row in its table** |

**22. When do you use WHERE clause and when do you use HAVING clause?**

**Ans:**

**WHERE Clause:**

**A WHERE clause contains a condition that must be met and it directly follows the FROM clause. We can restrict the rows that are returned from the query by using the WHERE clause.**

**Having Clause :**

**HAVING clause restrict the groups. We use the HAVING clause to specify which groups are to be displayed, thus further restricting the groups on the basis of aggregate information.**

**23.What is the difference between & and &&?**

**Ans:**

**We use a variable prefixed with an ampersand (&) to prompt the user for a value:**

**Such as SELECT employee\_id, last\_name, salary, department\_id**

**FROM employees**

**WHERE employee\_id = &employee\_num ;**

**We use the double ampersand (&&) if we want to reuse the variable value without prompting the user each time:**

**Such as SELECT employee\_id, last\_name, job\_id, &&column\_name**

**FROM employees**

**ORDER BY &column\_name ;**

**24. What is a deadlock?**

**Ans:**

**A deadlock occurs when two or more session are waiting for data locked by each other, resulting in all the sessions being blocked. Oracle automatically detects and resolves deadlocks by rolling back the statement associated with the transaction that detects the deadlock. Typically, deadlocks are caused by poorly implemented locking in application code. This article shows the steps necessary to identify the offending application code when a deadlock is detected.**

**25. What is difference between the join syntax and the natural join syntax?**

**Ans: In the case of JOIN:**

**Two tables can be joined whatever the column name, values and data types of the columns are .**

**To join in 8i, just we use a where clause:**

**select \* from emp, dept where emp.deptno = dept.deptno;**

**In 9i and up, we could**

**select ename, dname, emp.deptno, dept.deptno from SCOTT.EMP inner join SCOTT.DEPT on emp.deptno = dept.deptno**

**In the case of NATURAL JOIN:**

**The NATURAL JOIN clause is based on all columns in the two tables that have the same name. It selects rows from the two tables that have equal values in all matched columns.**

**26. Difference between Substr and instr?**

**Ans:**

**Substr: Returns specified character from character value starting at character position m,n character long (if m is negative, the count starts from the end of the character value .if n is omitted , all characters to the end of the string are returned ).**

**Instr: Return the numeric position of named string. Optionally, you can provide a position m to start searching, and the occurrence n of the string. m and n default to 1, meaning start the search at the beginning of the search and report the first occurrence.**

**27. What do you mean by RDBMS?**

**Ans:**

**RDBMS stands by Relational Database management System. A relational database uses relations or two-dimensional tables to store information. In a relational database, you create several tables to store different pieces of information about your employees, such as an employee table, a department table, and a salary table.**

**28. What do you mean by Trunc function?**

**Ans:**

**The TRUNC function truncates the column, expression, or value to n decimal place. The TRUNC function works with arguments similar to those of the ROUND function. If the second argument is 0 or is missing, the value is truncated to zero decimal places. If the second argument is 2, the value is truncated to two decimal places.**

**OR**

**TRUNC function can reduce the precision of its first numeric, DATE, or DATETIME argument by returning the truncated value. If the first argument is neither a number nor a point in time, it must be cast to a numeric, DATE, or DATETIME data type.**

**29. Why we use NVL function?**

**ANS:**

**We use NVL function to convert a null value to an actual value. Data types can be used are date, character and number.**

**Syntax: NVL (expr1, expr2).**

**Where expr1 is the source value or expression that may contain a null and expr2 is the target value for converting the null.**

**30.What happens after a COMMIT statement?**

**Ans:**

**Make all pending changes permanent by using the COMMIT statement. Here is what happens**

**after a COMMIT statement:**

**• Data changes are written to the database.**

**• The previous state of the data is no longer available with normal SQL queries.**

**• All users can view the results of the transaction.**

**• The locks on the affected rows are released; the rows are now available for other users**

**to perform new data changes.**

**• All savepoints are erased.**

**31. What is the state of the data after ROLLBACK?**

**Ans:**

**Discard all pending changes by using the ROLLBACK statement, which results in the**

**following:**

**• Data changes are undone.**

**• The previous state of the data is restored.**

**• Locks on the affected rows are released.**

**32.What is data dictionary?**

**Ans:**

**User tables are tables created by the user and contain business data, such as EMPLOYEES.**

**There is another collection of tables and views in the Oracle database known as the data**

**dictionary. This collection is created and maintained by the Oracle server and contains**

**information about the database. The data dictionary is structured in tables and views, just**

**like other database data. We use SQL statements to access the data dictionary.**

**33. What is Role?**

**Ans:**

**A role is a named group of related privileges that can be granted to the user. This method makes it easier to revoke and maintain privileges. A user can have access to several roles, and several users can be assigned the same role. Roles are typically created for a database application.**

**34.What is function of CASCADE CONSTRAINTS?**

**Ans:**

**The CASCADE CONSTRAINTS clause is used along with the DROP COLUMN clause.**

**The CASCADE CONSTRAINTS clause drops all referential integrity constraints that refer to the primary and unique keys defined on the dropped columns.**

**The CASCADE CONSTRAINTS clause also drops all multicolumn constraints defined on the dropped columns.**

**35.What is the function of NULLIF?**

**Ans:**

**The NULLIF function compares two expressions. If they are equal, the function returns null.**

**If they are not equal, the function returns the first expression. We cannot specify the literal**

**NULL for the first expression.**

**Syntax:**

**NULLIF (expr1, expr2)**

**In the syntax:**

**• *expr1* is the source value compared to *expr2***

**• *expr2* is the source value compared with *expr1* (If it is not equal to *expr1*, *expr1***

**is returned.)**