Self-test Oracle fundamentals

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INTRODUCTION TO THE SELF-TEST ORACLE FUNDAMENTALS

The following questionnaire might help to check your personal knowledge of the various topics discussed in the Oracle fundamentals course, in order to find out whether it is useful for you to follow this course.

In this test, 25 questions are asked. For some questions, there is more than one correct answer. In such cases this will be clearly indicated. A question is answered correctly only if all correct answers are given.

This test will take approximately 10 minutes. You can find the right answers and guidelines for the evaluation at the end of this document. Good luck!

QUESTIONS SELF-TEST ORACLE FUNDAMENTALS

1. Which of the following are SQL commands? (2 answers)

   [_] [a] start script1

   [_] [b] exec dbms_stats.gather_table_stats(.....)

   [_] [c] if vcono=10 then …

   [_] [d] exp/imp

   [_] [e] create procedure Pinsert ...

2. What is the name of the Oracle memory shared by Oracle processes?

   O (a) PGA

   O (b) SGA

   O (c) BUFPOOL

   O (d) MGA

3. Which of the following object orderings is correct, following the rule “contains” or “manages”?

   O (a) Instance - Tablespace - Database - Table - Rows

   O (b) Instance - Database - Tablespace - Table - Rows

   O (c) Instance - Database - Table - Tablespace - Rows

   O (d) Database - Instance - Tablespace - Table - Rows

4. An Oracle instance is:

   O (a) The ensemble of files useful for the functioning of an Oracle database.

   O (b) The process and the memory areas used for the functioning of an Oracle database.

   O (c) The installation phase of the Oracle software.

   O (d) A database which does not want to start up.

5. I connect to an Oracle server running on Linux, from SQL*Plus running on my Windows computer. Which of the following is true?

O (a) The 'listener' process must be running on my Windows machine.

O (b) The host string/connect string allows me to connect to a very specific instance.

O (c) I cannot connect since with an Oracle server on Linux, the client application must also run on Linux.

O (d) The name of the host string/connect string must be identical to the Oracle server name.

6. Consider the following commands:

```
create table comp
(cono number(3), coname varchar(30) not null, cocountr char(1) );
alter table comp add primary key (cono);
create table pers
(pno number(3) primary key,
 pfname varchar(20),
 plname varchar(20),
 psex char check (psex in ('F','M')),
 ptel char(12) unique,
 pa_cono number,
 constraint fk_pa_cono foreign key (pa_cono)
            references comp on delete cascade );

alter table pers modify plname varchar2(20) not null;
alter table comp add constraint ck_country
                 check (cocountr in ('B','F','L','NL'));
```

Which rows can**not** be found in this table?

COMP (3 answers)

[_] [a] 10 ABIS B

[_] [b] 10 ABIS NL

[_] [c] 11 ABIS NL

[_] [d] 12 B

[_] [e] 13 SBB F

[_] [f] 14 NASA B

PERS (4 answers)

[_] [g] 1A Wim Dooshekspij M 999-987-7898 10

[_] [h] 2 Eddy Martens X +32 789-887-8767 10

[_] [i] 3 Peter Nap M ab3369886 13

[_] [j] 4 Halley F 32- 788 213 13

[_] [k] 5 Louis Trump M 33365656 15

7. Take a look at the following instruction.

```
create sequence seq_1 start with 100 increment by 10 nocycle nocache
```

Transaction 1 requests 2 values, and commits. Transaction 2 starts while transaction 1 is running, requests 2 values, and rolls back. Afterwards, when both transactions are finished, Transaction 1 requests again a value. What will this last value?

O (a) 120

O (b) 140

O (c) 160

O (d) Can not be specified - after all a sequence is a random digit generator!

8. Take a look at the following situation.

```
alter table sales_item
add constraint fk1 foreign key (sno) references sales;
```

I get the following error message - what does this error means?

```
ORA-xxxx: parent key not found
```

O (a) One of the values in the sales_item table, column sno (the foreign key) has no corresponding values in the sales table (primary key).

O (b) The sales table has no primary key - and a foreign key can only reference a primary key.

O (c) At creation time of a foreign key it is mandatory to specify a 'modification rule', like 'on delete restrict', 'on delete cascade'.

O (d) The user executing this statement has unsufficient privileges on the sales table. After the user has been granted the references privilege on the sales table, the problem should be solved.

9. Regarding a tablespace, indicate which of the statements are true (2 answers).

[_] [a] A tablespace cannot contain more than one table.

[_] [b] A tablespace contains either tables or indexes.

[_] [c] A tablespace may contain at the same time tables and indexes.

[_] [d] A tablespace can span more than one file.

[_] [e] A tablespace has a fixed size and cannot be enlarged.

10. Which type of data doesn't exist or cannot be used for a column in an Oracle table? (2 answers)

[_] [a] bigInteger

[_] [b] number

[_] [c] varchar2

[_] [d] boolean

[_] [e] date

11. Regarding tables, indicate which statements are true. (4 answers)

[_] [a] A table must always contain a primary key.

[_] [b] A table must always be placed in a single file.

[_] [c] The structure of a table is defined once and forever, and cannot be changed.

[_] [d] A primary key uses a unique index.

[_] [e] A column on which a unique constraint has been defined may contain NULL values.

[_] [f] It is possible to redefine the order of columns in a table without recreating the table.

[_] [g] It is possible to define several constraints on the same column.

[_] [h] An empty table does not take any space on the hard disk.

[_] [i] It is possible to temporarily deactivate a primary key.

12. What could you certify about XYZ in the following instruction?

```
select * from XYZ
```

O (a) XYZ is a table, a view or a synonym.

O (b) XYZ is a table or a view.

O (c) XYZ can only be a table.

O (d) XYZ has been created in the schema of the user executing the statement.

13. Which statement concerning indexes is always false?

O (a) An index can be created as a reverse index or as a unique index.

O (b) Normally it is never up to the developer to determine whether an index should be used or not.

O (c) When a table has to be reorganized, it is often useful to also reorganise the indexes on that table.

O (d) Even tables can be created as a balanced 'index' structure: they are called index-only tables.

O (e) The synchronization of indexes with tables is a manual process, that the DBA has to perform regularly.

14. One wants to control the value of a column such that it may not be augmented by more than 10 percent. To implement this rule, which of the following can be used?

O (a) A CHECK constraint on the column, with an appropriate rule.

O (b) A trigger on the table.

O (c) A view which will filter the allowed modifications.

O (d) It is impossible to implement this in the database, one has to do it in the application.

15. I have created a user-defined function get_price(n) which returns the price of product n. To know the price of product 5, which of the following commands should be used in SQL*Plus?

O (a) start get_price(5)

O (b) execute get_price(5)

O (c) execute function (get_price,5)

O (d) select get_price(5) from dual

16. As an ordinary user, which of the following catalog tables can I consult? (3 answers)

[_] [a] user_tables

[_] [b] v$datafiles

[_] [c] dba_tables

[_] [d] all_tables

[_] [e] cat

17. Amongst the following privileges, which one is considered an ‘object’ privilege?

O (a) create session

O (b) select any table

O (c) delete on tutcompanies

O (d) grant any object privilege

18. A user has created a table (tutcompanies) and also a stored procedure (pinsert) which allows for rows to be added to that table. In order for me to be able to add rows to that table, what must that user do? (2 answers)

[_] [a] grant execute on pinsert to myusername

[_] [b] grant execute on myusername.pinsert to myusername

[_] [c] grant select on tutcompanies to myusername

[_] [d] grant insert on tutcompanies to myusername

[_] [e] grant select on tutcompanies, execute on pinsert to myusername

19. For which task can the ‘sqlldr’ utility be used?

O (a) Export an Oracle table to a flat text file on my hard disk.

O (b) Move a table from one schema to another.

O (c) Import a text file with my client information into an Oracle table.

O (d) Move all objects of a certain user to another Oracle server.

20. For which tasks can the datapump utility be used? (2 answers)

[_] [a] Export an Oracle table to a flat text file on my hard disk.

[_] [b] Move a table from one schema to another.

[_] [c] Import a text file with my client information into an Oracle table.

[_] [d] Move all objects of a certain user to another Oracle server.

21. Consider the following sqlldr-action:

```
sqlload userid = system/manager@tsti control = test.ctl

load data
infile 'test.dat'
badfile 'test.bad'
discardfile 'test.dsc'
discardmax 10
replace
continueif this (1) = '*'
into table customers
(custno position(1:5) integer external,
custname position(6:20) char,
custadr position(21:29) char)
```

Which of the following statements are true? (2 answers)

[_] [a] The name of the file containing the sqlldr instructions is ‘test.dat’.

[_] [b] The name of the file containing the sqlldr instructions is ‘test.ctl’.

[_] [c] The password of the user who executes sqlldr is ‘system’.

[_] [d] The rows to load are unconditionally added to the table.

[_] [e] The character ‘*’ which is mentioned here is in the file ‘test.dat’, in the first column.

[_] [f] The complete name of the table being loaded is ‘tsti.system.customers’.

[_] [g] The records which do not satisfy a constraint defined on the database level will be written to the file ‘test.bad’.

22. Which of the following statements is NOT correct.

O (a) Oracle transforms an SQL statement to a Query Execution Plan and stores it in the Oracle ‘shared pool’.

O (b) The optimizer uses statistics to generate an optimal, efficient QEP.

O (c) The use of (host)variables in a query has no impact on the behaviour of Oracle in the context of optimization and QEP generation.

O (d) The more a QEP can be reused, the more performance is increased.

23. Think about the properties of views. Which of the statements is not correct?

O (a) One single view can be created on several tables.

O (b) It is often, but not always, possible to modify the underlying basetable-rows by means of views (update instruction).

O (c) When a table is dropped, all views on that table are automatically dropped as well.

O (d) When trying to add rows to a view, the view definition and the basetable definition determine whether this operation will succeed or not.

24. Consider the following result and indicate which statement is true.

```
0     SELECT STATEMENT Optimizer=CHOOSE (Cost=4 Card=1 Bytes=50)
1  0     SORT (GROUP BY) (Cost=4 Card=1 Bytes=50)
2  1        MERGE JOIN (CARTESIAN) (Cost=2 Card=2 Bytes=100)
3  2           TABLE ACCESS (FULL) OF 'TUTCOMPANIES' (Cost=2 Card=1 Bytes=48)
4  2              BUFFER (SORT) (Cost=2 Card=2 Bytes=4)
5  4                 INDEX (RANGE SCAN) OF 'IND_PA_CONO' (NON-UNIQUE)
```

O (a) The final result contains 4 rows.

O (b) The column FULL of the table TUTCOMPANIES has been read.

O (c) The only table being read by Oracle is the table TUTCOMPANIES.

O (d) The index IND_PA_CONO is used by the primary key of the table.

O (e) The segments of the tables TUTPERSONS and TUTCOMPANIES are completely run through.

25. In a single transaction, I am changing a table with several ‘update’- and ‘insert’-commands one after the other.
What can another user do in the meantime?

O (a) He cannot read the table because I am blocking it.

O (b) He can read the whole table without problems, and if he performs several ‘select’-statements one after the other, he will see the new changes and any newly inserted row.

O (c) He can read the whole table without problems, but he doesn’t see any modifications; he will just see the newly inserted rows.

O (d) He can read the whole table without problems, but he doesn’t see any modification nor any newly inserted row.

EVALUATION.

Here are the correct answers to all questions:

1. b e
2. b
3. b
4. b
5. b
6. b c d g h j k
7. b
8. a
9. c d
10. a d
11. d e g i
12. a
13. e
14. b
15. d
16. a d e
17. c
18. a d
19. c
20. b d
21. b e
22. c
23. c
24. c
25. d

Give 1 point per correctly answered question, also for questions with multiple correct answers.

If your score is more than 80%, you do not have to follow this course. You have sufficient background to follow one of the courses Oracle PL/SQL or Oracle DBA 1 - Core competences.

When you have a score between 50% and 80%, following the Oracle Fundamentals course can improve your knowledge.

When your score is less than 50%, we strongly suggest you follow the Oracle fundamentals course.