

Given Data

Data Testing Assessment

A school 'Study & Play' has different branches in India. Students appeared in 10th & 12th board have scored good marks in different subjects. 'Study & Play' wants to recognize teachers across different streams to award them for their student's performance.

'Student & Play' are looking for a data warehouse solution to do analysis on student performance in a particular branch or subject.

Exercise -

As a part of this exercise, use the below Student data to import in database table.

Sample Data –

Student Name	StudentRollNo	Class	Age	Father's Name
AJAY KUMAR	IETLINF01	X	16	PREM KUMAR
RAJAT MISHRA	IETLINF02	XI	17	PANKAJ MISHRA
SUDHEER SHARMA	IETLINF03	IX	15	SUNDER SHARMA
NANCY KAUR	IETLINF04	XII	18	AK SINGH
SUMITA SHARMA	IETLINF05	IV	14	AJAY SHARMA
NANDINI GUPTA	IETLINF06	VII	18	RAM GUPTA
RAM KUMAR		X	16	RAMAN KUMAR

Tasks

- 1- Create above table in database and insert the data.
- 2- Write sql query to find out total number of students in each class.
- 3- Write sql query to find out average age of students in each class.
- 4- Write sql query to find out the number of students having same roll no.
- 5- Write sql query to view the duplicate name of a student from the table.

ANSWERS

TASKS

- 1ST) Create above table in database and insert the data.

```
CREATE TABLE STUDENT_DATA (

    StudentName VARCHAR(100) NOT NULL,

    StudentRollNo VARCHAR(10),

    StudentClass CHAR(5) NOT NULL,

    StudentAge INT NOT NULL,

    FatherName VARCHAR(100),

    PRIMARY KEY (StudentRollNo)

)
```

The screenshot shows the Live SQL web application interface. The left sidebar contains navigation links: Home, SQL Worksheet (selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled 'SQL Worksheet' and contains the following SQL code:

```
1 CREATE TABLE STUDENT_DATA (
2     StudentName VARCHAR(100) NOT NULL,
3     StudentRollNo VARCHAR(10),
4     StudentClass CHAR(5) NOT NULL,
5     StudentAge INT NOT NULL,
6     FatherName VARCHAR(100),
7     PRIMARY KEY (StudentRollNo)
8 );
```

Below the code editor, the message 'Table created.' is displayed. At the bottom of the interface, a footer note states: '2023 Oracle - Live SQL 22.4.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym'.

The screenshot shows the Live SQL web application interface after executing a DESCRIBE statement. The SQL code in the editor is:

```
10 DESC STUDENT_DATA;
```

Below the code editor, the table structure is displayed as follows:

Column	Null?	Type
STUDENTNAME	NOT NULL	VARCHAR2(100)
STUDENTROLLNO	NOT NULL	VARCHAR2(10)
STUDENTCLASS	NOT NULL	CHAR(5)
STUDENTAGE	NOT NULL	NUMBER
FATHERNAME	-	VARCHAR2(100)

Below the table structure, there is a 'Download CSV' button and the message '5 rows selected.' At the bottom of the interface, a footer note states: '2023 Oracle - Live SQL 22.4.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym'.

INSERTING THE GIVEN DATA

INSERT INTO STUDENT_DATA VALUES ('AJAY KUMAR','IETLINF01','X',16,'PREM KUMAR');

INSERT INTO STUDENT_DATA VALUES ('RAJAT MISHRA','IETLINF02','XI',17,'PANKAJ MISHRA');

INSERT INTO STUDENT_DATA VALUES ('SUDHEER SHARMA','IETLINF03','IX',15,'SUNDER SHARMA');

INSERT INTO STUDENT_DATA VALUES ('NANCY KAUR','IETLINF04','XII',18,'AK SINGH');

INSERT INTO STUDENT_DATA VALUES ('SUMITA SHARMA','IETLINF05','IV',14,'AJAY SHARMA');

INSERT INTO STUDENT_DATA VALUES ('NANDINI GUPTA','IETLINF06','VII',18,'RAM GUPTA');

INSERT INTO STUDENT_DATA VALUES ('RAM KUMAR','IETLINF07','X',16,'RAMAN KUMAR');

The screenshot displays the Live SQL web application interface. The browser address bar shows the URL: https://livesql.oracle.com/apex/f?p=590:1:7999570673786::1:P1_STATEMENT_ID:320749229086646427679519475875216131461. The interface includes a sidebar with navigation options: Home, SQL Worksheet (selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled "SQL Worksheet" and contains a text editor with 7 lines of SQL code, each preceded by a line number. Below the editor, the execution results are displayed, showing "1 row(s) inserted." for each of the 7 statements. At the bottom, a footer indicates the version: "2023 Oracle - Live SQL 22.4.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym" and mentions it is built with Oracle APEX.

```
1 INSERT INTO STUDENT_DATA VALUES ('AJAY KUMAR','IETLINF01','X',16,'PREM KUMAR');
2 INSERT INTO STUDENT_DATA VALUES ('RAJAT MISHRA','IETLINF02','XI',17,'PANKAJ MISHRA');
3 INSERT INTO STUDENT_DATA VALUES ('SUDHEER SHARMA','IETLINF03','IX',15,'SUNDER SHARMA');
4 INSERT INTO STUDENT_DATA VALUES ('NANCY KAUR','IETLINF04','XII',18,'AK SINGH');
5 INSERT INTO STUDENT_DATA VALUES ('SUMITA SHARMA','IETLINF05','IV',14,'AJAY SHARMA');
6 INSERT INTO STUDENT_DATA VALUES ('NANDINI GUPTA','IETLINF06','VII',18,'RAM GUPTA');
7 INSERT INTO STUDENT_DATA VALUES ('RAM KUMAR','IETLINF07','X',16,'RAMAN KUMAR');
```

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

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https://livesql.oracle.com/apex/?p=590:1:7999570673786::1:P1_STATEMENT_ID:320749299086646427679519475875216131461

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Home

SQL Worksheet

My Session

Schema

Quick SQL

My Scripts

My Tutorials

Code Library

SQL Worksheet

9 SELECT * FROM STUDENT_DATA;

STUDENTNAME	STUDENTROLLNO	STUDENTCLASS	STUDENTAGE	FATHERNAME
AJAY KUMAR	IETLINF01	X	16	PREM KUMAR
RAJAT MISHRA	IETLINF02	XI	17	PANKAJ MISHRA
SUDHEER SHARMA	IETLINF03	IX	15	SUNDER SHARMA
NANCY KAUR	IETLINF04	XII	18	AK SINGH
SUMITA SHARMA	IETLINF05	IV	14	AJAY SHARMA
NANDINI GUPTA	IETLINF06	VII	18	RAM GUPTA
RAM KUMAR	IETLINF07	X	16	RAMAN KUMAR

Download CSV

7 rows selected.

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My Tutorials

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SQL Worksheet

11
12 SELECT COUNT(*) FROM STUDENT_DATA;

COUNT(*)

7

Download CSV

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2ND) Write sql query to find out total number of students in each class.

SELECT STUDENTCLASS, COUNT(STUDENTROLLNO) AS TOTAL_STUDENT FROM STUDENT_DATA GROUP BY STUDENTCLASS;

The screenshot shows the Live SQL interface with the following SQL query entered in the worksheet:

```
14 SELECT STUDENTCLASS, COUNT(STUDENTROLLNO) AS TOTAL_STUDENT FROM STUDENT_DATA GROUP BY STUDENTCLASS
```

The results are displayed in a table with 6 rows selected:

STUDENTCLASS	TOTAL_STUDENT
X	2
XII	1
IX	1
VII	1
XI	1
IV	1

Below the table, there is a "Download CSV" button and the text "6 rows selected." The footer of the interface indicates it is running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0.

3RD) Write sql query to find out average age of students in each class.

SELECT STUDENTCLASS, AVG(STUDENTAGE) AS AVG_AGE_OF_STUDENTS FROM STUDENT_DATA GROUP BY STUDENTCLASS ORDER BY STUDENTCLASS;

The screenshot shows the Live SQL interface with the following SQL query entered in the worksheet:

```
15  
16 SELECT STUDENTCLASS, AVG(STUDENTAGE) AS AVG_AGE_OF_STUDENTS FROM STUDENT_DATA GROUP BY STUDENTCLASS
```

The results are displayed in a table with 6 rows selected:

STUDENTCLASS	AVG_AGE_OF_STUDENTS
X	16
XII	18
IX	15
VII	18
XI	17
IV	14

Below the table, there is a "Download CSV" button and the text "6 rows selected." The footer of the interface indicates it is running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0.

4TH) Write sql query to find out the number of students having same roll no.

SELECT STUDENTROLLNO, COUNT (DISTINCT STUDENTROLLNO) AS SAME_STUDENT_ROLLNO FROM STUDENT_DATA
GROUP BY STUDENTROLLNO;

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
18 SELECT STUDENTROLLNO, COUNT (DISTINCT STUDENTROLLNO) AS SAME_STUDENT_ROLLNO FROM STUDENT_DATA
19 GROUP BY STUDENTROLLNO
```

The results are displayed in a table with two columns: STUDENTROLLNO and SAME_STUDENT_ROLLNO.

STUDENTROLLNO	SAME_STUDENT_ROLLNO
IETLINF01	1
IETLINF02	1
IETLINF03	1
IETLINF04	1
IETLINF05	1
IETLINF06	1
IETLINF07	1

Below the table is a "Download CSV" button. The footer indicates: "2023 Oracle - Live SQL 22.4.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym".

There are no same roll number students. So, in result is no data found. (As per given data)

The screenshot shows the Oracle Live SQL interface. The SQL Worksheet contains the following query:

```
17
18 SELECT STUDENTROLLNO, COUNT (DISTINCT STUDENTROLLNO) AS SAME_STUDENT_ROLLNO FROM STUDENT_DATA
19 GROUP BY STUDENTROLLNO HAVING COUNT (STUDENTROLLNO) > 1;
```

The results area displays "no data found". The footer indicates: "2023 Oracle - Live SQL 22.4.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 - Database Documentation - Ask Tom - Dev Gym".

5TH) Write sql query to view the duplicate name of a student from the table.

SELECT STUDENTNAME, COUNT (*) AS STUDENT_NAME_OCCURANCE FROM STUDENT_DATA
GROUP BY STUDENTNAME HAVING COUNT(STUDENTNAME)>1;

There are no names similar. So, in result is no data found. (As per given data)

The screenshot shows the Oracle Live SQL web interface. The browser address bar displays the URL: `https://livesql.oracle.com/apex/f?p=590:1:7999570673786::1:P1_STATEMENT_ID:320749299086646427679519475875216131461`. The interface includes a top navigation bar with 'Live SQL' branding and user information. A left sidebar contains navigation links: Home, SQL Worksheet (selected), My Session, Schema, Quick SQL, My Scripts, My Tutorials, and Code Library. The main area is titled 'SQL Worksheet' and contains a text editor with the following SQL query:

```
23 SELECT STUDENTNAME, COUNT(*) AS STUDENT_NAME_OCCURANCE FROM STUDENT_DATA
24 GROUP BY STUDENTNAME HAVING COUNT(STUDENTNAME)>1;
25
```

Below the editor, the result area displays 'no data found'. At the bottom of the interface, a footer provides version information: '2023 Oracle · Live SQL 22.4.1, running Oracle Database 19c EE Extreme Perf - 19.17.0.0.0 · Database Documentation · Ask Tom · Dev Gym' and mentions it is 'Built with ❤️ using Oracle APEX · Privacy · Terms of Use'.