

TP3 : Langage de manipulation des données : Requêtes avancées

Objectifs:

- ☐ Utilisation des requêtes multi-tables
- ☐ Les opérateurs jointures
- ☐ Les opérateurs ensemblistes
- ☐ Les requêtes imbriquées
- ☐ Groupement et Agrégation

Réalisation:

1 :

```
C:\Users\HoucineAchguar>sqlplus
SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 16:03:30 2024
Copyright (c) 1982, 2010, Oracle. All rights reserved.
Enter user-name: Etud
Enter password:
Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production
SQL> UPDATE Etudiant
  2 SET dateNaissance = TO_DATE('2002-07-31', 'YYYY-MM-DD')
  3 WHERE codeEtudiant = 'E001';
1 row updated.
SQL>
```

```
SQL> ALTER TABLE Resultat ADD anne DATE;
Table altered.
```

Pour la nouvelle colonne 'année', elle représente l'année d'inscription en vue de l'utiliser pour les questions suivantes liées à la liste par année.

2 :

```
C:\Users\HoucineAchguar>sqlplus
SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 16:08:36 2024
Copyright (c) 1982, 2010, Oracle. All rights reserved.
Enter user-name: Etud
Enter password:
Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production
SQL> SELECT
  2     nomEtudiant,
  3     prenomEtudiant,
  4     TO_CHAR(dateNaissance, 'Day, Month DD, YYYY') AS formatted_date
  5 FROM Etudiant;
```

NOMETUDIANT	PRENOMETUDIANT	FORMATTED_DATE
Smith	Alice	Saturday , August 22, 1992
Lee	James	Friday , March 18, 1994
Kim	Eunji	Tuesday , November 07, 1995
Tanaka	Yuki	Wednesday, September 30, 1992
Singh	Raj	Sunday , May 12, 1991

3 : Pour calculer la moyenne d'âge des étudiants en utilisant deux approches différentes :

Approche 1 : En utilisant la date actuelle

```
C:\Users\HoucineAchguar>sqlplus
SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 16:33:27 2024
Copyright (c) 1982, 2010, Oracle. All rights reserved.

Enter user-name: Etud
Enter password:
Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     AVG(EXTRACT(YEAR FROM SYSDATE) - EXTRACT(YEAR FROM dateNaissance)) AS Age_Moyen
  3 FROM Etudiant;

AGE_MOYEN
-----
29.6666667

SQL>
```

Approche 2 : Utilisation d'une date de référence

```
SQL> SELECT
  2     AVG(EXTRACT(YEAR FROM TO_DATE('2024-01-01', 'YYYY-MM-DD')) - EXTRACT(YEAR FROM dateNaissance)) AS Age_Moyen
  3 FROM Etudiant;

AGE_MOYEN
-----
29.6666667

SQL>
```

4

```
C:\Users\HoucineAchguar>sqlplus
SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 16:39:03 2024
Copyright (c) 1982, 2010, Oracle. All rights reserved.

Enter user-name: Etud
Enter password:
Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     COUNT(*) AS nombre_etudiants,
  3     AVG(EXTRACT(YEAR FROM SYSDATE) - EXTRACT(YEAR FROM dateNaissance)) AS age_moyen
  4 FROM Etudiant;

NOMBRE_ETUDIANTS  AGE_MOYEN
-----
6 29.6666667

SQL>
```

5:

```
C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 16:39:03 2024

Copyright (c) 1982, 2010, Oracle. All rights reserved.

Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     COUNT(*) AS nombre_etudiants,
  3     AVG(EXTRACT(YEAR FROM SYSDATE) - EXTRACT(YEAR FROM dateNaissance)) AS age_moyen
  4 FROM Etudiant;

NOMBRE_ETUDIANTS  AGE_MOYEN
-----
                6 29.6666667

SQL> SELECT
  2     COUNT(*) AS nombre_etudiants,
  3     MIN(EXTRACT(YEAR FROM SYSDATE) - EXTRACT(YEAR FROM dateNaissance)) AS age_minimum,
  4     MAX(EXTRACT(YEAR FROM SYSDATE) - EXTRACT(YEAR FROM dateNaissance)) AS age_maximum,
  5     AVG(EXTRACT(YEAR FROM SYSDATE) - EXTRACT(YEAR FROM dateNaissance)) AS age_moyen
  6 FROM Etudiant;

NOMBRE_ETUDIANTS AGE_MINIMUM AGE_MAXIMUM AGE_MOYEN
-----
                6         22        33 29.6666667

SQL>
```

6:

en utilisant l'année d'inscription pour lester le recherche

ANNEE	NOMBRE_ETUDIANTS	MOYENNE_NOTES	NOTE_MAXIMUM	NOTE_MINIMUM
2020	1	94.35	99	89.7
2021	2	82.75	85.5	80
2022	1	92.5	92.5	92.5
2023	2	81.75	85.5	78

SQL>

- En utilisant la date de naissance des etudiants :

```

C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 17:02:48 2024

Copyright (c) 1982, 2010, Oracle. All rights reserved.

Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     EXTRACT(YEAR FROM e.DateNaissance) AS annee,
  3     COUNT(*) AS nombre_etudiants,
  4     AVG(r.note) AS moyenne_notes,
  5     MAX(r.note) AS note_maximum,
  6     MIN(r.note) AS note_minimum
  7 FROM Etudiant e
  8 JOIN Resultat r ON e.codeEtudiant = r.codeEtudiant
  9 GROUP BY EXTRACT(YEAR FROM e.DateNaissance)
 10 ORDER BY annee;

  ANNEE NOMBRE_ETUDIANTS MOYENNE_NOTES NOTE_MAXIMUM NOTE_MINIMUM
-----
  1992              1             78           78           78
  1994              1          92.5          92.5          92.5
  1995              1          89.7          89.7          89.7
  2002              1          85.5          85.5          85.5

```

7 :

Je prends les étudiants de première année ainsi que ceux qui se sont inscrits en 2023. Et la deuxième année concerne les étudiants de 2022:

```

C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 18:05:55 2024

Copyright (c) 1982, 2010, Oracle. All rights reserved.

Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     EXTRACT(YEAR FROM anne) AS Annee,
  3     COUNT(DISTINCT codeEtudiant) AS nombre_etudiants,
  4     AVG(note) AS moyenne_notes,
  5     MAX(note) AS note_maximum,
  6     MIN(note) AS note_minimum
  7 FROM Resultat
  8 WHERE EXTRACT(YEAR FROM anne) IN (2020, 2021)
  9 GROUP BY EXTRACT(YEAR FROM anne)
10 ORDER BY Annee;

      ANNEE NOMBRE_ETUDIANTS MOYENNE_NOTES NOTE_MAXIMUM NOTE_MINIMUM
-----
      2020                1         94.35           99         89.7
      2021                2         82.75          85.5         80

SQL>

```

8:

```

SQL> SELECT
  2     EXTRACT(YEAR FROM R.anne) AS Annee,
  3     COUNT(DISTINCT E.codeEtudiant) AS nombre_etudiants,
  4     AVG(R.note) AS moyenne_notes,
  5     MAX(R.note) AS note_maximum,
  6     MIN(R.note) AS note_minimum
  7 FROM Resultat R
  8 JOIN Etudiant E ON R.codeEtudiant = E.codeEtudiant
  9 WHERE E.ville IN ('Agadir', 'Casa')
10 GROUP BY EXTRACT(YEAR FROM R.anne)
11 ORDER BY Annee;

      ANNEE NOMBRE_ETUDIANTS MOYENNE_NOTES NOTE_MAXIMUM NOTE_MINIMUM
-----
      2020                1         94.35           99         89.7
      2021                1         85.5          85.5         85.5
      2023                2         81.75          85.5         78

```

9:

```
SQL> SELECT
  2     EXTRACT(YEAR FROM R.anne) AS Annee,
  3     COUNT(DISTINCT E.codeEtudiant) AS nombre_etudiants,
  4     AVG(R.note) AS moyenne_notes,
  5     MAX(R.note) AS note_maximum,
  6     MIN(R.note) AS note_minimum
  7 FROM Resultat R
  8 JOIN Etudiant E ON R.codeEtudiant = E.codeEtudiant
  9 WHERE EXTRACT(YEAR FROM R.anne) IN (2020, 2021)
10     AND E.ville IN ('Marrackech', 'Taroudant')
11 GROUP BY EXTRACT(YEAR FROM R.anne)
12 ORDER BY Annee;
```

ANNEE	NOMBRE_ETUDIANTS	MOYENNE_NOTES	NOTE_MAXIMUM	NOTE_MINIMUM
2021	1	80	80	80

10:

Je prends les notes et les moyennes sur 100 et sur 20. Ainsi, je remplace 11 et 12/100 par 80 et 85/100 juste pour une approche, mais la solution reste la même.

```
SQL> SELECT
  2     EXTRACT(YEAR FROM anne) AS Annee,
  3     COUNT(DISTINCT codeEtudiant) AS nombre_etudiants,
  4     AVG(note) AS moyenne_notes,
  5     MAX(note) AS note_maximum,
  6     MIN(note) AS note_minimum
  7 FROM Resultat
  8 GROUP BY EXTRACT(YEAR FROM anne)
  9 HAVING AVG(note) BETWEEN 80 AND 90
10 ORDER BY Annee;
```

ANNEE	NOMBRE_ETUDIANTS	MOYENNE_NOTES	NOTE_MAXIMUM	NOTE_MINIMUM
2021	2	82.75	85.5	80
2023	2	81.75	85.5	78

11:

```

C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 18:32:44 2024

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Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     EXTRACT(YEAR FROM anne) AS Annee,
  3     COUNT(DISTINCT codeEtudiant) AS nombre_etudiants,
  4     AVG(note) AS moyenne_notes,
  5     MAX(note) AS note_maximum,
  6     MIN(note) AS note_minimum
  7 FROM Resultat
  8 GROUP BY EXTRACT(YEAR FROM anne)
  9 ORDER BY moyenne_notes DESC, Annee;

      ANNEE NOMBRE_ETUDIANTS MOYENNE_NOTES NOTE_MAXIMUM NOTE_MINIMUM
-----
      2020                1          94.35           99         89.7
      2022                1           92.5          92.5         92.5
      2021                2           82.75          85.5          80
      2023                2           81.75          85.5          78

SQL>

```

12 :


```
SQL> SELECT
  2     EXTRACT(YEAR FROM annee) AS Annee,
  3     COUNT(DISTINCT codeEtudiant) AS nombre_etudiants,
  4     AVG(note) AS moyenne_notes,
  5     MAX(note) AS note_maximum,
  6     MIN(note) AS note_minimum
  7 FROM Resultat
  8 GROUP BY EXTRACT(YEAR FROM annee)
  9 ORDER BY moyenne_notes DESC, Annee;
```

ANNEE	NOMBRE_ETUDIANTS	MOYENNE_NOTES	NOTE_MAXIMUM	NOTE_MINIMUM
2020	1	94.35	99	89.7
2022	1	92.5	92.5	92.5
2021	2	82.75	85.5	80
2023	2	81.75	85.5	78

```
SQL>
```

```
SQL> SELECT
  2     EXTRACT(YEAR FROM annee) AS Annee,
  3     COUNT(DISTINCT codeEtudiant) AS nombre_etudiants,
  4     AVG(note) AS moyenne_notes,
  5     MAX(note) AS note_maximum,
  6     MIN(note) AS note_minimum
  7 FROM Resultat
  8 GROUP BY EXTRACT(YEAR FROM annee)
  9 ORDER BY nombre_etudiants DESC, moyenne_notes DESC, Annee;
```

ANNEE	NOMBRE_ETUDIANTS	MOYENNE_NOTES	NOTE_MAXIMUM	NOTE_MINIMUM
2021	2	82.75	85.5	80
2023	2	81.75	85.5	78
2020	1	94.35	99	89.7
2022	1	92.5	92.5	92.5

13:

```
SQL> SELECT
  2     INITCAP(nomEnseignant) AS nom_enseignant
  3 FROM Enseignant
  4 WHERE UPPER(SUBSTR(nomEnseignant, -1)) = 'I';
```

NOM_ENSEIGNANT
Mansouri

14:

```
Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     E.nomEnseignant
  3 FROM Enseignant E
  4 JOIN Charge C ON E.codeEnseignant = C.codeEnseignant
  5 GROUP BY E.nomEnseignant
  6 HAVING COUNT(C.codeCours) > 2;

no rows selected
```

16:

```
SQL> SELECT
  2     E.nomEnseignant
  3 FROM Enseignant E
  4 JOIN Charge C ON E.codeEnseignant = C.codeEnseignant
  5 GROUP BY E.nomEnseignant
  6 HAVING COUNT(C.codeCours) > 2;

no rows selected
```

17:

```
SQL> SELECT
  2     codeCours,
  3     LISTAGG(nomEnseignant, ', ') WITHIN GROUP (ORDER BY nomEnseignant) AS enseignants
  4 FROM Enseignant E
  5 JOIN Charge C ON E.codeEnseignant = C.codeEnseignant
  6 GROUP BY codeCours
  7 HAVING COUNT(DISTINCT E.nomEnseignant) > 1;

no rows selected
```

18:

```

C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 19:33:25 2024

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Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> CREATE TABLE ETUDIANTS AS
  2  SELECT * FROM Etudiant WHERE 1 = 0;

Table created.

SQL>

SQL> SELECT * FROM Etudiants;

```

CODEETUDIA	NOMETUDIANT	PRENOMETUDIANT	DATENAISS
VILLE			
E002 Casa	Smith	Alice	22-AUG-92
E003 Tokyo	Lee	James	18-MAR-94
E004 Agadir	Kim	Eunji	07-NOV-95

CODEETUDIA	NOMETUDIANT	PRENOMETUDIANT	DATENAISS
VILLE			
E005 Agadir	Tanaka	Yuki	30-SEP-92
E006 Casa	Singh	Raj	12-MAY-91
E001 Casa	Doe	John	31-JUL-02

CODEETUDIA	NOMETUDIANT	PRENOMETUDIANT	DATENAISS
VILLE			
E009 Marrackech	Houcine	Achguar	10-AUG-02

```

C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 19:40:33 2024

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Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT * FROM ETUDIANTS
  2 WHERE EXTRACT(YEAR FROM dateNaissance) = 2002
  3 UNION
  4 SELECT * FROM ETUDIANT
  5 WHERE EXTRACT(YEAR FROM dateNaissance) = 2002;

CODEETUDIA  NOMETUDIANT          PRENOMETUDIANT        DATENAISS
-----
VILLE
-----
E001      Doe              John                31-JUL-02
Casa

E009      Houcine          Achguar             10-AUG-02
Marrackech

SQL>

```

20 :

```

C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 19:47:26 2024

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Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT * FROM ETUDIANT
  2 WHERE EXTRACT(YEAR FROM (SELECT MAX(anne) FROM Resultat)) = 2020
  3 UNION
  4 SELECT * FROM ETUDIANTS
  5 WHERE EXTRACT(YEAR FROM (SELECT MAX(anne) FROM Resultat)) = 2023;

CODEETUDIA NOMETUDIANT          PRENOMETUDIANT          DATENAISS
-----
VILLE
-----
E001      Doe              John              31-JUL-02
Casa
E002      Smith             Alice             22-AUG-92
Casa
E003      Lee               James            18-MAR-94
Tokyo

CODEETUDIA NOMETUDIANT          PRENOMETUDIANT          DATENAISS
-----
VILLE
-----
E004      Kim               Eunji            07-NOV-95
Agadir
E005      Tanaka            Yuki             30-SEP-92
Agadir

E005      Tanaka            Yuki             30-SEP-92
Agadir

E006      Singh             Raj              12-MAY-91
Casa

CODEETUDIA NOMETUDIANT          PRENOMETUDIANT          DATENAISS
-----
VILLE
-----
E009      Houcine          Achguar          10-AUG-02
Marrackech

7 rows selected.

SQL>

```

21:

```

C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 19:50:11 2024

Copyright (c) 1982, 2010, Oracle. All rights reserved.

Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     e.codeEtudiant,
  3     e.nomEtudiant,
  4     AVG(r.note) AS moyenne_notes,
  5     MIN(r.note) AS note_minimum,
  6     MAX(r.note) AS note_maximum
  7 FROM Etudiant e
  8 LEFT JOIN Resultat r ON e.codeEtudiant = r.codeEtudiant
  9 GROUP BY e.codeEtudiant, e.nomEtudiant;

CODEETUDIA NOMETUDIANT          MOYENNE_NOTES NOTE_MINIMUM NOTE_MAXIMUM
-----
E002      Smith              78             78             78
E003      Lee                92.5           92.5           92.5
E004      Kim                94.35          89.7           99
E006      Singh
E001      Doe                85.5           85.5           85.5
E005      Tanaka
E009      Houcine            80             80             80

7 rows selected.

SQL>

```

22:

```

SQL> SELECT
  2     e.codeEtudiant,
  3     e.nomEtudiant,
  4     AVG(r.note) AS moyenne_notes,
  5     MIN(r.note) AS note_minimum,
  6     MAX(r.note) AS note_maximum
  7 FROM Etudiant e
  8 JOIN Resultat r ON e.codeEtudiant = r.codeEtudiant
  9 WHERE EXTRACT(YEAR FROM r.anne) = 2023
 10 GROUP BY e.codeEtudiant, e.nomEtudiant;

CODEETUDIA NOMETUDIANT          MOYENNE_NOTES NOTE_MINIMUM NOTE_MAXIMUM
-----
E002      Smith              78             78             78
E001      Doe                85.5           85.5           85.5

SQL>

```

23:

```
C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 19:59:44 2024

Copyright (c) 1982, 2010, Oracle. All rights reserved.

Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     e.codeEtudiant,
  3     e.nomEtudiant,
  4     AVG(r.note) AS moyenne_notes,
  5     MIN(r.note) AS note_minimum,
  6     MAX(r.note) AS note_maximum
  7 FROM Etudiant e
  8 JOIN Resultat r ON e.codeEtudiant = r.codeEtudiant
  9 WHERE EXTRACT(YEAR FROM r.anne) = 2022
 10 GROUP BY e.codeEtudiant, e.nomEtudiant
 11 HAVING AVG(r.note) > 85;

CODEETUDIA NOMETUDIANT      MOYENNE_NOTES NOTE_MINIMUM NOTE_MAXIMUM
-----
E003      Lee              92.5          92.5          92.5

SQL>
```

24:

```
C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 19:56:21 2024

Copyright (c) 1982, 2010, Oracle. All rights reserved.

Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     e.codeEtudiant,
  3     e.nomEtudiant,
  4     AVG(r.note) AS moyenne_notes,
  5     MIN(r.note) AS note_minimum,
  6     MAX(r.note) AS note_maximum
  7 FROM Etudiant e
  8 JOIN Resultat r ON e.codeEtudiant = r.codeEtudiant
  9 GROUP BY e.codeEtudiant, e.nomEtudiant
 10 HAVING AVG(r.note) > 80;

CODEETUDIA NOMETUDIANT      MOYENNE_NOTES NOTE_MINIMUM NOTE_MAXIMUM
-----
E003      Lee              92.5          92.5          92.5
E004      Kim              94.35         89.7          99
E001      Doe              85.5          85.5          85.5

SQL>
```

25 :

```
C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 21:24:27 2024

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Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> ALTER TABLE Etudiants ADD filiere VARCHAR2(50);

Table altered.

SQL>
```

```
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Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL> SELECT
  2     e.filiere,
  3     e.codeEtudiant,
  4     e.nomEtudiant,
  5     AVG(r.note) AS moyenne
  6 FROM Etudiants e
  7 JOIN Resultat r ON e.codeEtudiant = r.codeEtudiant
  8 GROUP BY e.filiere , e.codeEtudiant, e.nomEtudiant;
```

FILIERE		CODEETUDIA
NOMETUDIANT	MOYENNE	
ADIA Kim	94.35	E004
ADIA Doe	85.5	E001
ADIA Smith	78	E002
FILIERE		CODEETUDIA
NOMETUDIANT	MOYENNE	
ADIA Lee	92.5	E003
GL Houcine	80	E009

26:

```
SQL> SELECT *
  2 FROM Enseignant e
  3 WHERE NOT EXISTS (
  4     SELECT 1
  5     FROM Cours c
  6     WHERE NOT EXISTS (
  7         SELECT 1
  8         FROM Charge ch
  9         WHERE ch.codeEnseignant = e.codeEnseignant
10         AND ch.codeCours = c.codeCours
11     )
12     AND c.intitule = 'Réseaux'
13 );
```

CODEENSEIG	NOMENSEIGNANT	PRENOMENSEIGNANT	SPECIALITE
EN001	Smith	David	Mathematics
EN002	Johnson	Sophie	Physics
EN003	Brown	Michael	History
EN004	Garcia	Anna	Programming
EN005	Doe	Robert	Chemistry
EN008	Mansouri	Amed	Mathematics

6 rows selected.

27:

```
C:\Users\HoucineAchguar>sqlplus
```

```
SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 22:00:00 2024
```

```
Copyright (c) 1982, 2010, Oracle. All rights reserved.
```

```
Enter user-name: Etud
```

```
Enter password:
```

```
Connected to:
```

```
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production
```

```
SQL> SELECT DISTINCT ch.codeEnseignant, e.nomEnseignant, e.prenomEnseignant
  2 FROM Charge ch
  3 JOIN Enseignant e ON ch.codeEnseignant = e.codeEnseignant;
```

CODEENSEIG	NOMENSEIGNANT	PRENOMENSEIGNANT
EN004	Garcia	Anna
EN001	Smith	David
EN002	Johnson	Sophie
EN003	Brown	Michael

```
SQL>
```

28:

```
C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 22:04:53 2024

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Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL>
SQL> CREATE VIEW Vue_Etudiants_2023 AS
  2  SELECT
  3      e.codeEtudiant,
  4      e.nomEtudiant,
  5      AVG(r.note) AS moyenne_notes
  6  FROM Etudiant e
  7  JOIN Resultat r ON e.codeEtudiant = r.codeEtudiant
  8  WHERE EXTRACT(YEAR FROM r.anne) = 2023
  9  GROUP BY e.codeEtudiant, e.nomEtudiant;

View created.

SQL>
SQL>
```

29:

```
C:\Users\HoucineAchguar>sqlplus

SQL*Plus: Release 11.2.0.2.0 Production on Sun Jan 7 22:04:53 2024

Copyright (c) 1982, 2010, Oracle. All rights reserved.

Enter user-name: Etud
Enter password:

Connected to:
Oracle Database 11g Express Edition Release 11.2.0.2.0 - Production

SQL>
SQL> CREATE VIEW Vue_Etudiants_2023 AS
  2  SELECT
  3      e.codeEtudiant,
  4      e.nomEtudiant,
  5      AVG(r.note) AS moyenne_notes
  6  FROM Etudiant e
  7  JOIN Resultat r ON e.codeEtudiant = r.codeEtudiant
  8  WHERE EXTRACT(YEAR FROM r.anne) = 2023
  9  GROUP BY e.codeEtudiant, e.nomEtudiant;

View created.

SQL>
SQL> SELECT * FROM Vue_Etudiants_2023;

CODEETUDIA  NOMETUDIAN  MOYENNE_NOTES
-----
E002        Smith          78
E001        Doe           85.5

SQL>
```

FIN