## L07 Sinteza datelor

```
-- SINTEZA DATELOR
select codSpec ,nume , codCurs,Nota
   from tStudenti as A inner join tNote as B on A.codStud=B.codStud
   union
select codSpec, nume , '*', avg(convert (decimal, nota)) as media
   from tStudenti as A inner join tNote as B on A.codStud=B.codStud
   group by codSpec, Nume
   union
select codSpec, '*' ,'*' , avg(convert (decimal,nota)) as media
   from tStudenti as A inner join tNote as B on A.codStud=B.codStud
   group by codSpec
select '*' ,'*','*' , avg (convert(decimal,nota)) as media
   from tStudenti as A inner join tNote as B on A.codStud=B.codStud
   order by codSpec ,Nume, codCurs
/*
          nume
                    codCurs Nota
codSpec
                               6.636363
Info
                                6.750000
        Alexandra *
                                6.000000
Info
Info
         Alexandra ASD
                                8.000000
          Alexandra FP
Info
                                4.000000
                     *
Info
         Andreea
                                7.500000
Info
         Andreea
                    ASD
                                5.000000
         Andreea
                    FP
Info
                                10.000000
                     *
Info
         Florin
                                6.000000
                    ASD
Info
          Florin
                                 7.000000
Info
         Florin
                    FP
                                5.000000
                     *
         Mihai
                                 7.500000
Info
         Mihai
                                9.000000
Tnfo
                    ASD
         Mihai
                     FP
                                6.000000
Info
Mate
                                 6.333333
         Adrian
                     *
Mate
                                7.000000
          Adrian
                     FP
                                 7.000000
Mate
                     *
Mate
         Flavius
                                8.000000
                     FP
         Flavius
                                8.000000
Mate
Mate
          Marian
                                 4.000000
                                 4.000000
Mate
          Marian
                    FP
--Sa se modifice interogarea precedenta astfel incat sa apara nota maxima si
nota minima la nivel de student , etc.
select codSpec ,nume , codCurs,Nota,' 'as [nota minima], ' ' as [ nota maxima]
   from tStudenti as A inner join tNote as B on A.codStud=B.codStud
select codSpec, nume, '*', avg(convert (decimal,nota)) as media, str(min(nota)),
str(max(nota))
   from tStudenti as A inner join tNote as B on A.codStud=B.codStud
   group by codSpec, Nume
   union
```

```
select codSpec, '*' ,'*' , avg(convert (decimal,nota)) as media,str(min(nota)),
str( max(nota))
   from tStudenti as A inner join tNote as B on A.codStud=B.codStud
   group by codSpec
select '*','*','*', avg (convert(decimal,nota)) as media,str(min(nota)),
str(max(nota))
   from tStudenti as A inner join tNote as B on A.codStud=B.codStud
   order by codSpec ,Nume, codCurs
/*
                     codCurs Nota
                                       nota minima nota maxima
codSpec
             nume
                            6.636363
                                           4
                                                   10
Info
                             6.750000
                                           4
                                                    10
          Alexandra *
                                                     8
Info
                            6.000000
Info
          Alexandra ASD
                              8.000000
Info
          Alexandra FP
                             4.000000
          Andreea
                    *
                             7.500000
                                                     10
Info
          Andreea
                             5.000000
Info
                    ASD
Info
          Andreea
                    FP
                              10.000000
                    *
                                                     7
Info
          Florin
                             6.000000
Info
          Florin
                    ASD
                             7.000000
         Florin
                    FP
                              5.000000
Info
                     *
Info
          Mihai
                              7.500000
                                            6
                                                     9
Info
          Mihai
                    ASD
                             9.000000
Info
          Mihai
                     FP
                              6.000000
                              6.333333
                                                    8
Mate
                     *
                              7.000000
                                            7
                                                     7
Mate
          Adrian
          Adrian
                    FP
                             7.000000
Mate
                     *
          Flavius
                             8.000000
                                            8
                                                     8
Mate
Mate
          Flavius
                     FP
                              8.000000
          Marian
                     *
                              4.000000
                                                     4
Mate
          Marian
                    FP
                              4.000000
Mate
*/
--Varianta optimizata. Utilizarea clauzei ROLLUP
select codSpec ,nume , codCurs, avg(convert(decimal,nota)) as media
   from tStudenti as A inner join tNote as B on A.codStud=B.codStud
   group by CodSpec, nume, CodCurs
   with rollup
/*
codSpec
          nume
                     codCurs
                               media
Info
          Alexandra
                    ASD
                                8.000000
Info
          Alexandra FP
                                4.000000
Info
          Alexandra NULL
                                6.000000
Info
          Andreea
                     ASD
                                5.000000
Info
          Andreea
                    FP
                                10.000000
Info
          Andreea
                                7.500000
                     NULL
Info
          Florin
                     ASD
                                7.000000
          Florin
                     FP
                                5.000000
Info
Info
          Florin
                     NULL
                                6.000000
Info
          Mihai
                     ASD
                                9.000000
          Mihai
                                6.000000
Info
                     FP
Info
          Mihai
                     NULL
                                7.500000
                                6.750000
Info
          NULL
                     NULL
          Adrian
                      FP
                                 7.000000
Mate
          Adrian
                                 7.000000
Mate
                     NULL
Mate
          Flavius
                     FP
                                 8.000000
Mate
          Flavius
                    NULL
                                8.000000
```

```
Marian
                         FP
                                      4.000000
Mate
            Marian
                         NULL
                                      4.000000
Mate
Mate
            NULL
                         NULL
                                      6.333333
NULL
            NULL
                         NULL
                                      6.636363
*/
--Utilizarea clauzei CUBE
select codSpec ,nume , codCurs, avg(convert(decimal,nota)) as media
    from tStudenti as A inner join tNote as B on A.codStud=B.codStud
    group by CodSpec, nume, CodCurs
    with cube
/*
                                      media
codSpec
            nume
                         codCurs
                                      8.000000
Info
            Alexandra
                         ASD
NULL
            Alexandra
                         ASD
                                      8.000000
                                      5.000000
Info
            Andreea
                         ASD
                                      5.000000
NULL
            Andreea
                         ASD
            Florin
                                      7.000000
Info
                         ASD
NULL
            Florin
                                      7.000000
                         ASD
Info
            Mihai
                         ASD
                                      9.000000
NULL
            Mihai
                         ASD
                                      9.000000
                                      7.250000
            NULL
NULL
                         ASD
            Adrian
                         FP
                                      7.000000
Mate
            Adrian
                         FΡ
                                      7.000000
NULL
Info
            Alexandra
                         FP
                                      4.000000
NULL
            Alexandra
                         FP
                                      4.000000
Info
            Andreea
                         FP
                                      10.000000
            Andreea
                         FP
                                      10.000000
NULL
            Flavius
                         FP
                                      8.000000
Mate
NULL
            Flavius
                         FP
                                      8.000000
Info
            Florin
                         FP
                                      5.000000
                                      5.000000
NULL
            Florin
                         FP
            Marian
                                      4.000000
Mate
                         FP
                                      4.000000
NULL
            Marian
                         FP
Info
            Mihai
                         FP
                                      6.000000
NULL
            Mihai
                         FΡ
                                      6.000000
NULL
            NULL
                         FP
                                      6.285714
NULL
            NULL
                         NULL
                                      6.636363
                                      7.250000
Info
            NULL
                         ASD
Info
            NULL
                         FP
                                      6.250000
Info
            NULL
                         NULL
                                      6.750000
            NULL
                         FP
                                      6.333333
Mate
Mate
            NULL
                         NULL
                                      6.333333
            Adrian
                         NULL
                                      7.000000
Mate
            Adrian
                         NULL
                                      7.000000
NULL
Info
            Alexandra
                         NULL
                                      6.000000
            Alexandra
                                      6.000000
NULL
                         NULL
Info
            Andreea
                         NULL
                                      7.500000
            Andreea
                                      7.500000
NULL
                         NULL
            Flavius
                         NULL
                                      8.000000
Mate
            Flavius
                                      8.000000
NULL
                         NULL
            Florin
                                      6.000000
Info
                         NULL
NULL
            Florin
                         NULL
                                      6.000000
                                      4.000000
Mate
            Marian
                         NULL
            Marian
                                      4.000000
NULL
                         NULL
Info
            Mihai
                                      7.500000
                         NULL
NULL
            Mihai
                         NULL
                                      7.500000
*/
```

```
select codSpec ,nume+' '+prenume as nume , codCurs,Nota
    from tStudenti as A inner join tNote as B on A.codStud=B.codStd
    order by nume
--TABELE PIVOT
select CodSpec , Nume, is null( str(AG), '-') as [Alg gr], is null(str(ASD), '-') as
[Str date],
   isnull(str(FP),'-') as [Fundamentele pr],isnull(str(BD),'-') as [Baze date
    from ( select codSpec ,nume as nume , codCurs,Nota
    from tStudenti as A inner join tNote as B on A.codStud=B.codStud ) as A
    pivot (avg(nota) for CodCurs in ([AG],[ASD],[FP], [BD] ) as PVT
/*
CodSpec
                     Alg gr Str date Fundamentele pr Baze date
          Nume
        Adrian - -
Alexandra - 8
Andreea - 5
                                         7
Mate
Info
                                         4
                                        10
Info
          Flavius
                                         8
Mate
Info Florin -
Mate Marian -
Info Mihai -
                             7
                                         5
                                         4
                            _
                            9
                                         6
*/
```