**/\***

**Sa se afiseze cod specializare, cod student, nume, cod curs, nota.**

**Lista va fi ordonata crescator dupa cod specializare, nume si cod curs**

**\*/**

Select

CodSpec, tStudenti.codStud,nume,codCurs, nota

from tStudenti inner join tNote on tStudenti.codStud=tNote.codStud

order by nume,codcurs

CodSpec codStud nume codCurs nota

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Mate S13 Adrian FP 9

Info S03 Alexandra ASD 8

Info S03 Alexandra FP 4

Info S04 Andreea ASD 5

Info S04 Andreea FP 10

Mate S11 Flavius ASD 7

Mate S11 Flavius FP 10

Info S01 Florin ASD 7

Info S01 Florin FP 7

Mate S12 Marian FP 6

Info S02 Mihai ASD 9

Info S02 Mihai FP 6

**/\***

**Sa se afiseze media notelor la nivel de student.**

**Lista va fi ordonata crescator dupa medie**

**\*/**

**select**

tStudenti.codStud, nume, avg(convert(decimal(4,2),nota)) as media

**from** tStudenti inner join tNote on tStudenti.codStud=tNote.codStud

**group by** tStudenti.codStud, nume

**order by** media asc

codStud nume media

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S03 Alexandra 6.000000

S12 Marian 6.000000

S01 Florin 7.000000

S02 Mihai 7.500000

S04 Andreea 7.500000

S11 Flavius 8.500000

S13 Adrian 9.000000

**/\***

**Sa se afiseze studentul cu media cea mai mica**

**\*/**

select top 1

tStudenti.codStud,nume,avg(convert(decimal(4,2),nota)) as media

from tStudenti inner join tNote on tStudenti.codStud=tNote.codStud

group by tStudenti.codStud, nume

order by media asc

**/\***

**Sa se afiseze studentii cu media cea mai mica**

**\*/**

select top 1 with ties

tStudenti.codStud,nume,avg(convert(decimal(4,2),nota)) as media

from tStudenti inner join tNote on tStudenti.codStud=tNote.codStud

group by tStudenti.codStud, nume

order by media asc

codStud nume media

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S03 Alexandra 6.000000

S12 Marian 6.000000

**/\***

**Sa se afiseze media mediilor notelor studentilor la nivel de specializare**

**Rezolvare:**

**Functiile de agregare, AVG, Sum, Max, Min, etc. nu pot fi imbricate.**

**De aceea vom rezolva problema in doua etape:**

**1 - vom crea o vedere cu media notelor la nivel de student (in cadrul specializarii).**

**2 - vom determina media mediilor la nivel de specializare**

**\*/**

**create view** vMediiStud

as

select codSpec, tStudenti.codStud,nume,avg(convert(decimal(4,2),nota)) as media

from tStudenti inner join tNote on tStudenti.codStud=tNote.codStud

group by CodSpec, tStudenti.codStud, nume

select codSpec, avg(media) as [Media mediilor]

from vMediiStud

group by codSpec

codSpec Media mediilor

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Info 7.000000

Mate 7.833333

**/\***

**Sa se afiseze studentii cu media tuturor notelor**

**\*/**

select avg(nota) from tNote

-----------

7

**/\***

**Sa se afiseze studentii cu media mai mare decat media tuturor notelor**

**\*/**

select

codSpec,A.codStud,nume, avg(convert(decimal(4,2),nota)) as media

from tStudenti as A inner join tNote as B on A.codStud=B.codStud

group by codSpec,A.codStud,nume

having avg(convert(decimal(4,2),nota))>(select avg(nota) from tNote)

codSpec codStud nume media

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Info S02 Mihai 7.500000

Info S04 Andreea 7.500000

Mate S11 Flavius 8.500000

Mate S13 Adrian 9.000000

/\*Comentariu:

Subinterogarea

(select avg(nota) from tNote)

fiind necorelata cu interogarea principala se executa o singura data, independent de interogarea principal (din exteriorul ei)

\*/

**/\***

**Subinterogari corelate**

**Sa se afiseze studentii cu media mai mare decat media notelor studentilor de la aceeasi specializare**

**\*/**

select

codSpec,A.codStud,nume, avg(convert(decimal(4,2),nota)) as media

from tStudenti as A inner join tNote as B on A.codStud=B.codStud

group by codSpec,A.codStud,nume

having avg(convert(decimal(4,2),nota))>

(select avg(nota) from tNote where A.CodSpec=CodSpec)

codSpec codStud nume media

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Info S02 Mihai 7.500000

Info S04 Andreea 7.500000

Mate S11 Flavius 8.500000

Mate S13 Adrian 9.000000

/\* Comentariu:

Se observa ca subinterogarea corelata

(select avg(nota) from tNote where A.CodSpec=CodSpec)

se executa pentru fiecare rand al interogarii din exteriorul ei.

Prin urmare, solutia nu este optima.

Putem optimiza solutia, creand o vedere sau un tabel temporar cu mediile la nivel de specializare

Vom crea un tabel temporar

\*/

select codSpec, avg(nota) as MedieSpec

into **##tMediiSpec**

from tStudenti as A inner join tNote as B on A.CodStud=B.CodStud

group by codSpec

select \* from ##tMediiSpec

codSpec MedieSpec

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Info 7

Mate 8

select A.codSpec,A.codStud, nume, B.media

from tStudenti as A inner join

(select codStud, avg(convert(decimal(4,2),nota)) as media

from tNote group by codStud) as B

on A.CodStud=B.CodStud

inner join ##tMediiSpec as C on A.CodSpec=C.CodSpec

where B.media>medieSpec

codSpec codStud nume media

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Info S02 Mihai 7.500000

Info S04 Andreea 7.500000

Mate S11 Flavius 8.500000

Mate S13 Adrian 9.000000