DBMS | L11+L12 | SJT 419 | Prof. Nancy Victor | Fall 2020
by Sharadindu Adhikari | 19BCE2105 | sharadindu.adhikari2019@vitstudent.ac.in

Set B | Lab CAT 2 | September 22, 2020

Questions in brief:

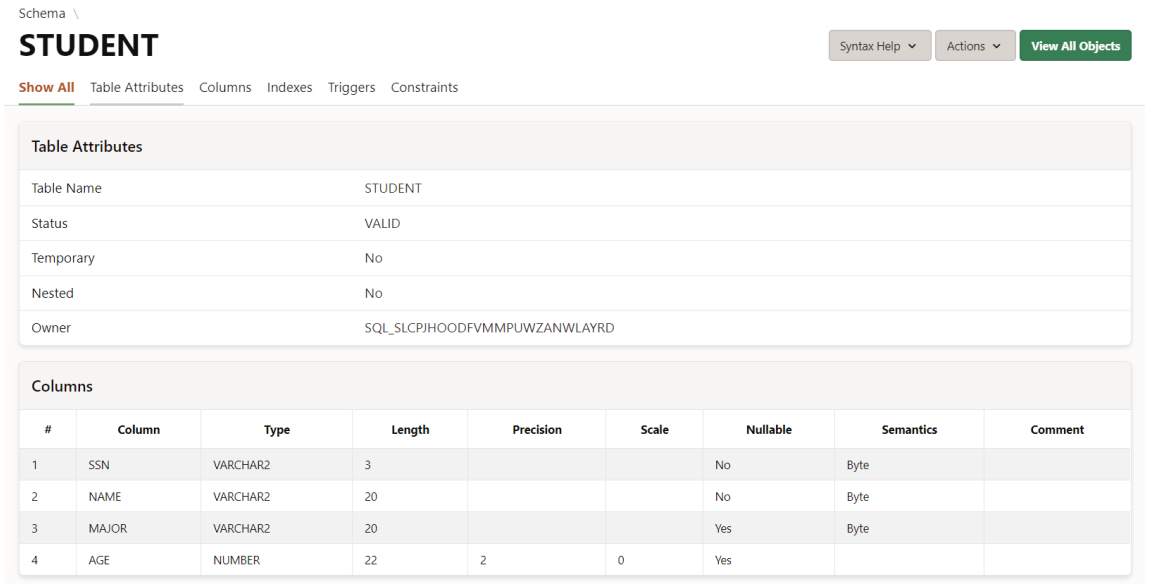
1. Create tables as instructed.
2. Populate the tables as directed in the QP.
3. Display the contents of all tables.
4. Display the details of courses that the students can enroll during winter. (Use subqueries)
5. Display the isbn, title and author name of the book that was adopted on 05/07/2020. (Use Join)
6. Display the student ssn and name of those students whose age is greater than the age of all students enrolled into B.Tech program. (Use subqueries and ALL)
7. Display the minimum price and sum of the prices of all text books.
8. Display the SSN. Name and age of those students enrolled in Fall semester. Remove duplicates, if any (Use Join)

Solution:

1.

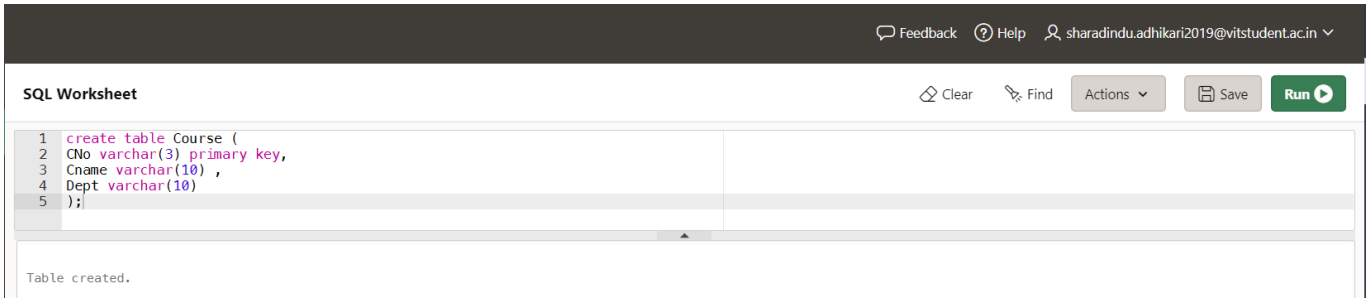
STUDENT:

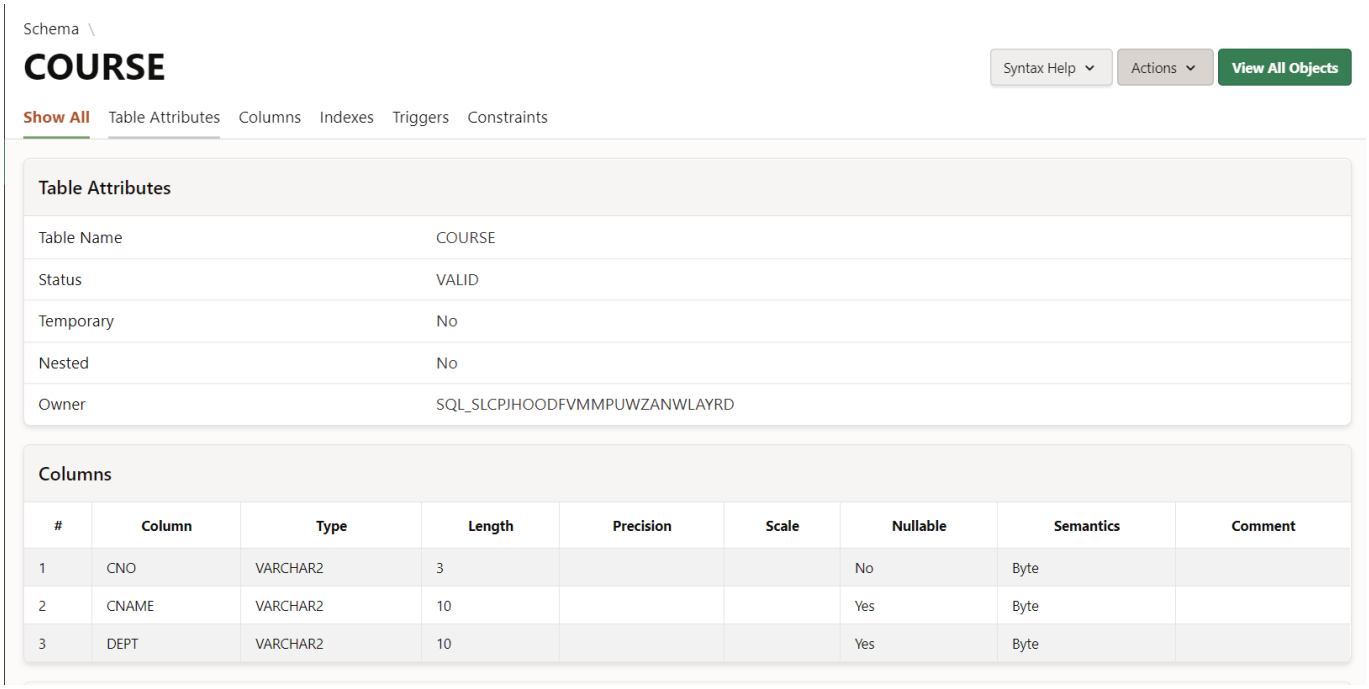
```
create table Student (
Ssn varchar(3) primary key,
Name varchar(20) not null,
Major varchar(20),
Age number(2)
);
```



COURSE:

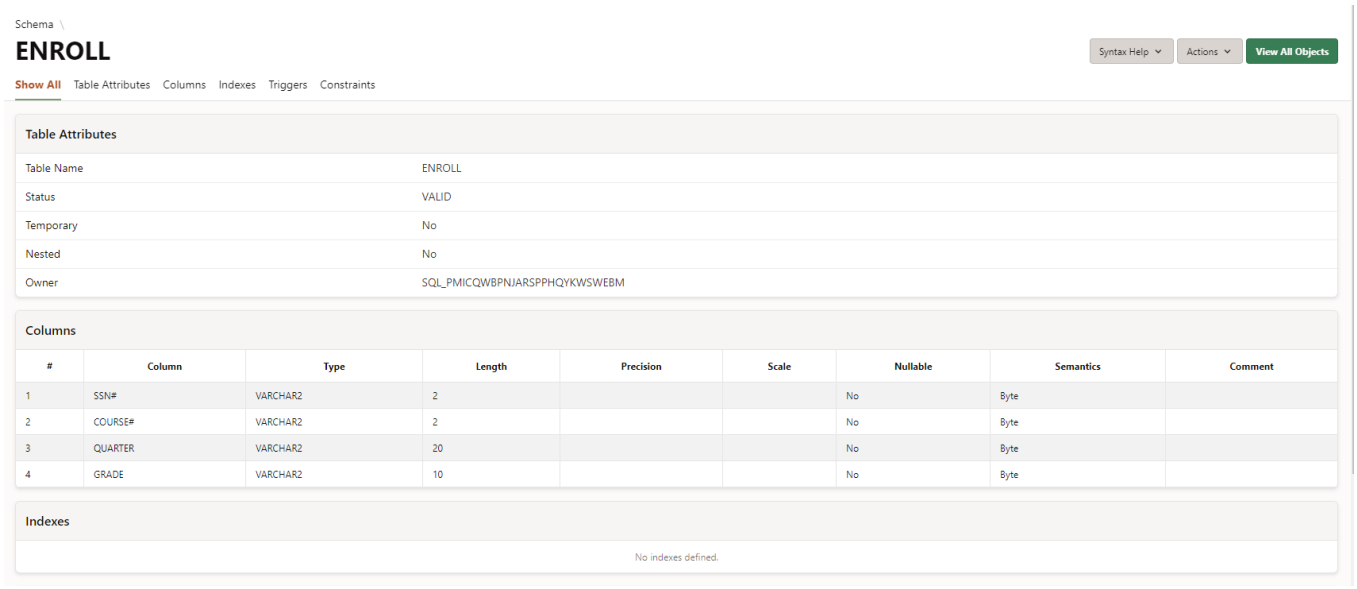
```
create table Course (
CNo varchar(3) primary key,
Cname varchar(10) ,
Dept varchar(10)
);
```





ENROLL:

```
create table Enroll (
    Ssn# varchar2(2) not null,
    Course# varchar2(2) not null,
    Quarter varchar2(20) not null constraint quarter_check check (Quarter='Fall' or
Quarter='Winter' or Quarter='Summer'),
    Grade varchar2(10) not null
);
```



Schema \

ENROLL

Syntax Help | Actions | View All Objects

Show All | Table Attributes | Columns | Indexes | Triggers | Constraints

Table Attributes

Table Name	ENROLL
Status	VALID
Temporary	No
Nested	No
Owner	SQL_PMICQWBPNJARSPPHQYKWSWEBM

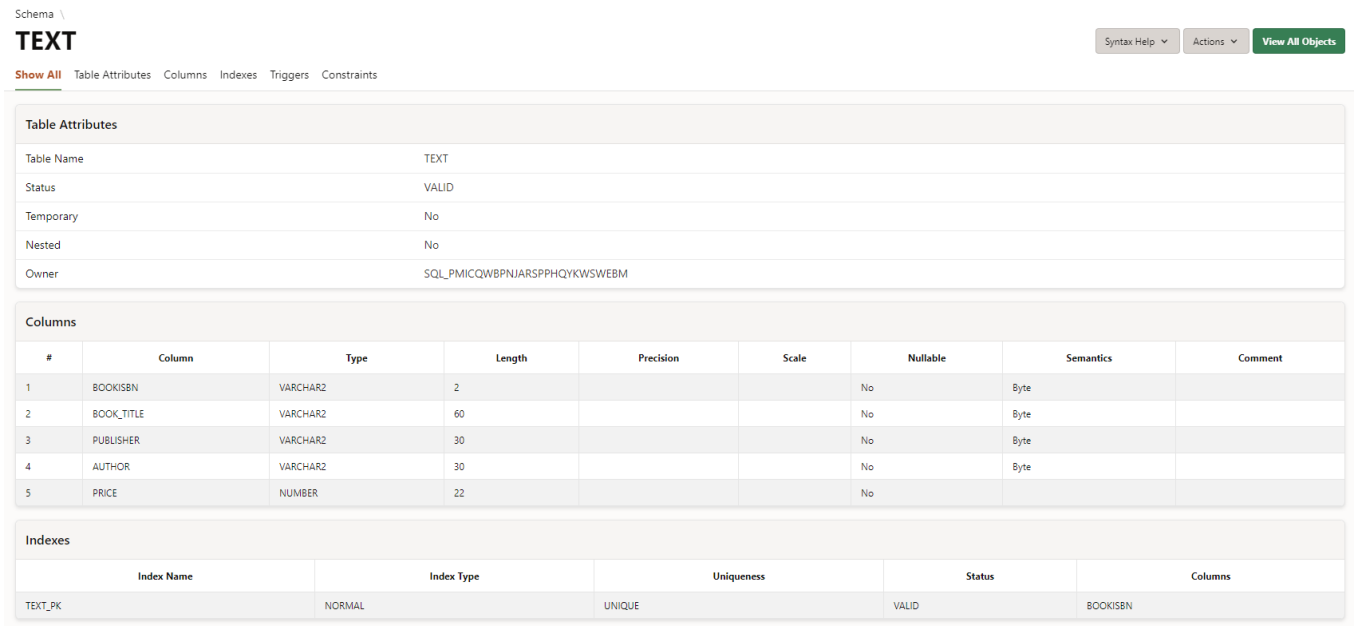
Columns

#	Column	Type	Length	Precision	Scale	Nullable	Semantics	Comment
1	SSN#	VARCHAR2	2			No	Byte	
2	COURSE#	VARCHAR2	2			No	Byte	
3	QUARTER	VARCHAR2	20			No	Byte	
4	GRADE	VARCHAR2	10			No	Byte	

Indexes

No indexes defined.

```
create table Text (
    BookISBN varchar2(2) not null constraint text_pk primary key,
    Book_Title varchar2(60) not null,
    Publisher varchar2(30) not null,
    Author varchar2(30) not null,
    Price number not null
);
```



Schema \

TEXT

Syntax Help | Actions | View All Objects

Show All | Table Attributes | Columns | Indexes | Triggers | Constraints

Table Attributes

Table Name	TEXT
Status	VALID
Temporary	No
Nested	No
Owner	SQL_PMICQWBPNJARSPPHQYKWSWEBM

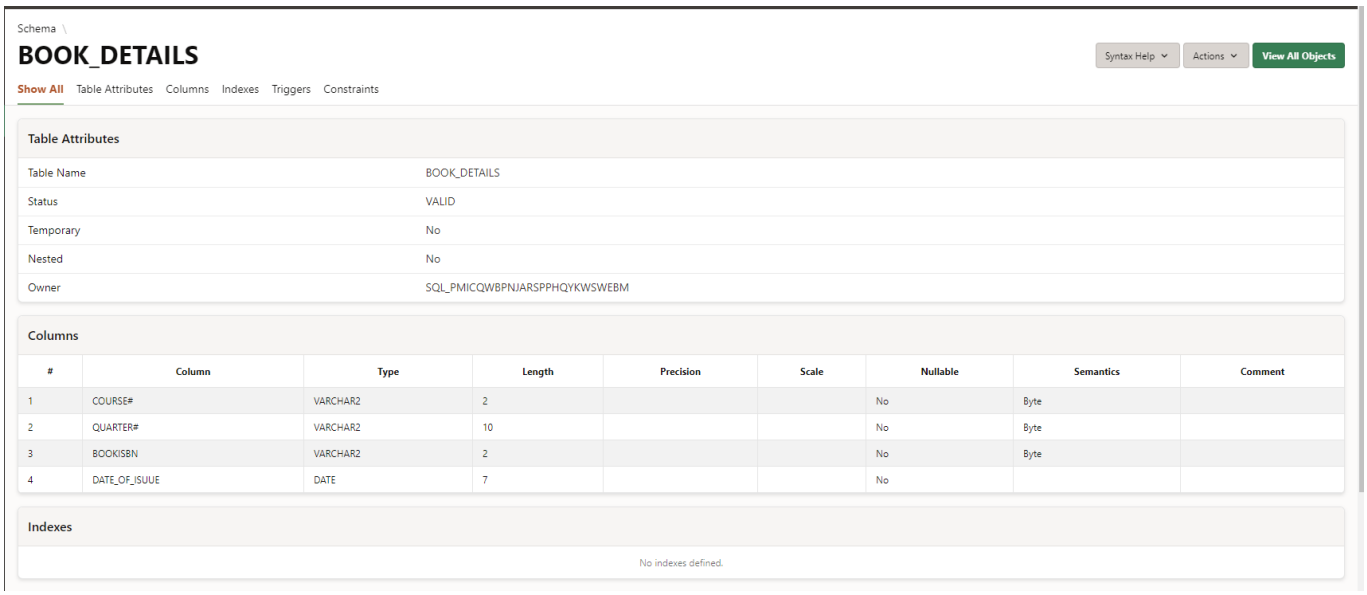
Columns

#	Column	Type	Length	Precision	Scale	Nullable	Semantics	Comment
1	BOOKISBN	VARCHAR2	2			No	Byte	
2	BOOK_TITLE	VARCHAR2	60			No	Byte	
3	PUBLISHER	VARCHAR2	30			No	Byte	
4	AUTHOR	VARCHAR2	30			No	Byte	
5	PRICE	NUMBER	22			No		

Indexes

Index Name	Index Type	Uniqueness	Status	Columns
TEXT_PK	NORMAL	UNIQUE	VALID	BOOKISBN

```
create table Book_Details (
    Course# varchar2(2) not null,
    Quarter# varchar2(10) not null,
    BookISBN varchar2(2) not null,
    Date_Of_Isuue date not null
);
```



Schema \

BOOK_DETAILS

Syntax Help | Actions | View All Objects

Show All | Table Attributes | Columns | Indexes | Triggers | Constraints

Table Attributes

Table Name	BOOK_DETAILS
Status	VALID
Temporary	No
Nested	No
Owner	SQL_PMICQWBPNJARSPPHQYKWSWEBM

Columns

#	Column	Type	Length	Precision	Scale	Nullable	Semantics	Comment
1	COURSE#	VARCHAR2	2			No	Byte	
2	QUARTER#	VARCHAR2	10			No	Byte	
3	BOOKISBN	VARCHAR2	2			No	Byte	
4	DATE_OF_ISUUE	DATE	7			No		

Indexes

No indexes defined.

Foreign Keys:

```
alter table Enroll
add constraint Ssn_Enroll_fk foreign key (Ssn#) references Student(Ssn);
```

```
Table altered.
```

```
alter table Enroll
add constraint Course_Enroll_fk foreign key (Course#) references
Course(Course_Number);
```

```
Table altered.
```

```
alter table Book_Details
add constraint Course_BA_fk foreign key (Course#) references Course(Course_number);
```

```
Table altered.
```

```
alter table Book_Details
add constraint Course_BookISBN_fk foreign key (BookISBN) references Text(BookISBN);
```

```
Table altered.
```

Populating the Tables:

```
insert into Student values('S1','Ann','B.Tech',18);
insert into Student values('S2','John','BCA',17);
insert into Student values('S3','James','MCA',22);
insert into Student values('S4','Samuel','B.Tech',19);
insert into Student values('S5','Harry','M.Tech',23);
SELECT * FROM Student;
```

SSN	NAME	MAJOR	AGE
S1	Ann	B.Tech	18
S2	John	BCA	17
S3	James	MCA	22
S4	Samuel	B.Tech	19
S5	Harry	M.Tech	23

Download CSV
5 rows selected.

```
insert into Course values('C1','DBMS','SCOPE');
insert into Course values('C2','DS','SITE');
insert into Course values('C3','OS','SCOPE');
SELECT * FROM Course;
```

CNO	CNAME	DEPT
C1	DBMS	SCOPE
C2	DS	SITE
C3	OS	SCOPE

```
insert into Enroll values('S1','C1','Fall','First');
insert into Enroll values('S2','C1','Winter','First');
insert into Enroll values('S1','C2','Winter','Second');
insert into Enroll values('S3','C3','Fall','First');
insert into Enroll values('S1','C3','Fall','Third');
SELECT * FROM Enroll;
```

SSN#	COURSE#	QUARTER	GRADE
S1	C1	Fall	First
S2	C1	Winter	First
S1	C2	Winter	Second
S3	C3	Fall	First
S1	C3	Fall	Third

Download CSV
5 rows selected.

```
insert into Book_Details values('C1','Fall','I1','5-Jul2020');
insert into Book_Details values('C1','Winter','I2','5-Aug-2020');
insert into Book_Details values('C2','Winter','I3','5-Jul-2020');
SELECT * FROM Book_Details;
```

COURSE#	QUARTER#	BOOKISBN	DATE_OF_ISUUE
C1	Fall	I1	05-JUL-20
C1	Winter	I2	05-AUG-20
C2	Winter	I3	05-JUL-20

Download CSV
3 rows selected.

```
Insert into Text values('I1','Book For Engineers','Wil','XYZ',850);
Insert into Text values('I2','Introduction to Programming','Jayp','ABC',900);
Insert into Text values('I3','C Programming','John','PQR',600);
Insert into Text values('I4','Engineers','Wil','AAA',870);
Insert into Text values('I5','World Of Programming','Hao','WWQ',1200);
SELECT * FROM Text;
```

BOOKISBN	BOOK_TITLE	PUBLISHER	AUTHOR	PRICE
I1	Book For Engineers	Wil	XYZ	850
I2	Introduction to Programming	Jayp	ABC	900
I3	C Programming	John	PQR	600
I4	Engineers	Wil	AAA	870
I5	World Of Programming	Hao	WWQ	1200

Download CSV
5 rows selected.

4. Display the details of courses that the students can enroll during winter. (Use subqueries)

```
select *

from Course where Course_Number=(Select Course# from Enroll where
Quarter='Winter');
```

5.Display the isbn, title and author name of the book that was adopted on 05/07/2020. (Use Join)

```
select t.BookISBN, t.Book_Title, t.Author
from Text t
inner join Book_Adoption b on b.BookISBN=t.BookISBN
where b.Date_Of_Isuue='05-July-2020';
```

BOOKISBN	BOOK_TITLE	AUTHOR
I1	Book For Engineers	XYZ
I3	C Programming	PQR

Download CSV
2 rows selected.

6.Display the student ssn and name of those students whose age is greater than the age of all students enrolled into B.Tech program. (Use subqueries and ALL)

```
select s.Ssn, s.Name
from Student s
where s.age>all(select age from Student where Major='B.Tech');
```

SSN	NAME
S3	James
S5	Harry

Download CSV
2 rows selected.

7.Display the minimum price and sum of the prices of all text books

```
select min(Price),sum(Price) from Text;
```

MIN(PRICE)	SUM(PRICE)
600	4420

Download CSV

8.Display the SSN. Name and age of those students enrolled in Fall semester. Remove duplicates, if any (Use Join)

```
select distinct s.Ssn, s.Name, s.Age
from Student s
inner join Enroll e on e.Ssn#=s.Ssn
where e.Quarter='Fall';
```

SSN	NAME	AGE
S3	James	22
S1	Ann	18

Download CSV
2 rows selected.