

University – AZERBAIJAN STATE ECONOMIC UNIVERSITY, UNEC BUSINESS SCHOOL, MBA

Project – Tədris kursu sistemi qurun. Aylıq kursların məlumatlarını əks etdirin. Top 5 tədris edilmiş kursu tapın.

Database- Oracle Database Sql

Student –Aytaj Mammadova

Teacher's name – Sevinc Hasanova

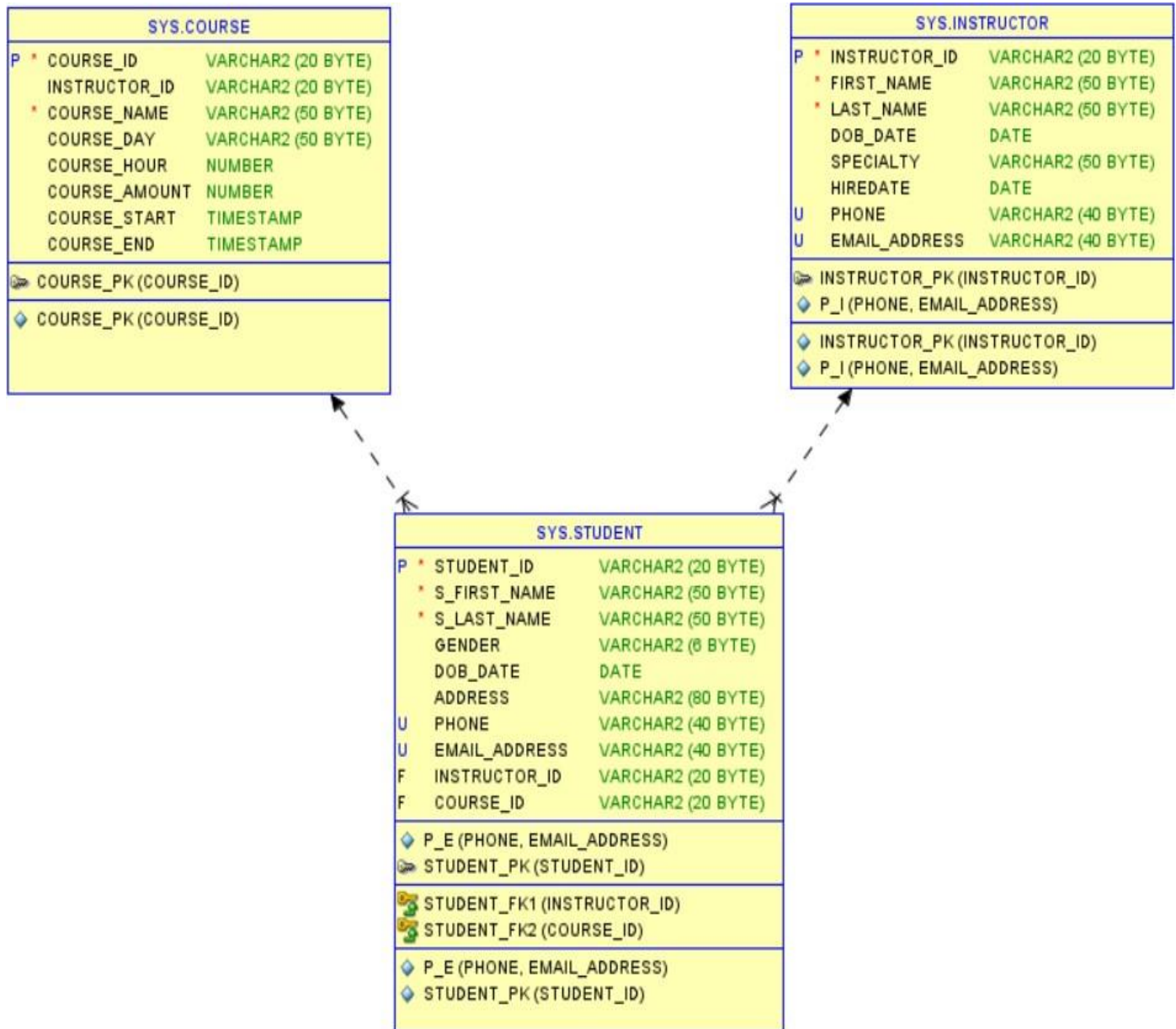
Year and term – 2022/2023, fall term

Course – first course

Group – E15-22

Year - 2022

ERD diagram model:



COURSE table:

```
CREATE TABLE COURSE(  
  COURSE_ID VARCHAR2(20) ,  
  INSTRUCTOR_ID VARCHAR2(20) ,  
  COURSE_NAME VARCHAR2(50) NOT NULL,  
  COURSE_DAY VARCHAR2(50),  
  COURSE_HOUR NUMBER,  
  COURSE_AMOUNT NUMBER,  
  COURSE_START TIMESTAMP WITH TIME ZONE,  
  COURSE_END  TIMESTAMP WITH TIME ZONE,  
  CONSTRAINT COURSE_PK PRIMARY KEY(COURSE_ID)  
);
```

```
INSERT INTO COURSE VALUES('C1','I1','Proqramlasdirma-Oracle Database  
Sql', 'Çərşənbə axşamı, Cümə', 24, 600, TIMESTAMP'2022-01-01  
10:00:00',TIMESTAMP'2022-03-29 12:00:00');
```

```
INSERT INTO COURSE VALUES('C2','I2','Data analitika-Excel VBA',  
'Çərşənbə, Cümə axşamı',16,200, TIMESTAMP'2022-03-01  
12:00:00',TIMESTAMP'2022-04-29 14:00:00');
```

```
INSERT INTO COURSE VALUES('C3','I2', 'Data analitika-Ms Excel and Ms  
Power BI', 'Çərşənbə axşamı,Şənbə',32,600, TIMESTAMP'2022-06-01  
14:00:00',TIMESTAMP'2022-09-29 16:00:00');
```

```
INSERT INTO COURSE VALUES('C4','I1','Proqramlasdirma-Oracle  
Pl/Sql','Bazar ertəsi, Çərşənbə axşamı',32,800, TIMESTAMP'2022-09-01  
14:00:00',TIMESTAMP'2022-12-29 16:00:00');
```

```
INSERT INTO COURSE VALUES('C5','I3','Xarici diller-Texniki ingilis-  
dili','Çərşənbə axşamı, Cümə',24,240, TIMESTAMP'2022-04-01  
20:00:00',TIMESTAMP'2022-06-02 22:00:00');
```

```
INSERT INTO COURSE VALUES('C6','I3','Xarici diller-Danisiq ingilis-dili',  
'Cümə,Şənbə',16,260,TIMESTAMP'2022-03-01 17:00:00',TIMESTAMP'2022-04-  
29 19:00:00');
```

```
INSERT INTO COURSE VALUES('C7','I4', 'Qrafik dizayn-2D qrafika',  
'Çərşənbə,Şənbə',16,300,TIMESTAMP'2022-05-01 19:00:00',TIMESTAMP'2022-  
06-29 21:00:00');
```

```
INSERT INTO COURSE VALUES('C8','I4','Qrafik dizayn-3D qrafika', 'Bazar  
ertəsi,Çərşənbə',24,400, TIMESTAMP'2022-06-01 18:00:00',TIMESTAMP'2022-  
08-29 20:00:00');
```

```
INSERT INTO COURSE VALUES('C9','I5','Proqramlasdirma-Java', 'Çərşənbə  
axşamı,Cümə',40,1000, TIMESTAMP'2022-08-01 13:00:00',TIMESTAMP'2022-  
12-29 15:00:00');
```

```
INSERT INTO COURSE VALUES('C10','I6','Proqramlasdirma-Python',  
'Çərşənbə,Cümə',32,800,TIMESTAMP'2022-02-01 19:00:00',TIMESTAMP'2022-  
05-02 21:00:00');
```

```
select  
course_id,course_name,course_day,  
concat(course_hour,concat('hour',concat('-',concat(course_amount,'AZN')))) as  
Course_hour_amount,  
to_char(course_start,'mm-dd-yyyy')as date_start,  
to_char(course_end ,'mm-dd-yyyy')as date_end,to_char(course_start,'hh24:mi')  
as time_start,  
to_char(course_end ,'hh24:mi') as time_end from course;
```

```

select
course_id,course_name,course_day,
concat(course_hour,concat('hour',concat('-',concat(course_amount,'AZN')))) as Course_hour_amount,
to_char(course_start,'mm-dd-yyyy')as date_start,
to_char(course_end ,'mm-dd-yyyy')as date_end,to_char(course_start,'hh24:mi')
as time_start,
to_char(course_end ,'hh24:mi') as time_end from course;

```

Query Result x

SQL | All Rows Fetched: 10 in 0.005 seconds

	COUR...	COURSE_NAME	COURSE_DAY	COURSE_HOUR_AMOUNT	DATE_START	DATE_END	TIME_START	TIME_END
1	C1	Programlasdirma-Oracle Database Sql	Çərşənbə axşamı, Cümə	24hour-600AZN	01-01-2022	03-29-2022	10:00	12:00
2	C2	Data analitika-Excel VBA	Çərşənbə, Cümə axşamı	16hour-200AZN	03-01-2022	04-29-2022	12:00	14:00
3	C3	Data analitika-Ms Excel and Ms Power BI	Çərşənbə axşamı,Şənbə	32hour-600AZN	06-01-2022	09-29-2022	14:00	16:00
4	C4	Programlasdirma-Oracle Pl/Sql	Bazar ertəsi, Çərşənbə...	32hour-800AZN	09-01-2022	12-29-2022	14:00	16:00
5	C5	Xarici diller-Texniki ingilis-dili	Çərşənbə axşamı, Cümə	24hour-240AZN	04-01-2022	06-02-2022	20:00	22:00
6	C6	Xarici diller-Danisiq ingilis-dili	Cümə,Şənbə	16hour-260AZN	03-01-2022	04-29-2022	17:00	19:00
7	C7	Qrafik dizayn-2D qrafika	Çərşənbə, Şənbə	16hour-300AZN	05-01-2022	06-29-2022	19:00	21:00
8	C8	Qrafik dizayn-3D qrafika	Bazar ertəsi,Çərşənbə	24hour-400AZN	06-01-2022	08-29-2022	18:00	20:00
9	C9	Programlasdirma-Java	Çərşənbə axşamı,Cümə	40hour-1000AZN	08-01-2022	12-29-2022	13:00	15:00
10	C10	Programlasdirma-Python	Çərşənbə,Cümə	32hour-800AZN	02-01-2022	05-02-2022	19:00	21:00

INSTRUCTOR table:

```

CREATE TABLE INSTRUCTOR(
INSTRUCTOR_ID VARCHAR2(20),
FIRST_NAME VARCHAR2(50) NOT NULL,
LAST_NAME VARCHAR2(50) NOT NULL,
DOB_DATE DATE,
SPECIALTY VARCHAR2(50),
HIREDATE DATE,
PHONE VARCHAR2(40) ,
EMAIL_ADDRESS VARCHAR2(40),
CONSTRAINT P_I UNIQUE(PHONE,EMAIL_ADDRESS),
CONSTRAINT INSTRUCTOR_PK PRIMARY KEY(INSTRUCTOR_ID));

```

```
INSERT INTO INSTRUCTOR VALUES('I1','Sevinc','Hasanova','01-JAN-1990','Sql/Pl-Sql developer','01-Aug-2013','051-222-21-30','sevinc.hasanova@data.az' );
```

```
INSERT INTO INSTRUCTOR VALUES('I2','Vusala','Babayeva','02-FEB-1989','Data analitik','01-Jun-2010','051-222-21-31','vusala.babayeva@data.az' );
```

```
INSERT INTO INSTRUCTOR VALUES('I3','Leyla','Azizova','12-MAR-1998','Ingilis-dili muellimi','01-Jul-2006','051-222-21-32','leyla.azizova@data.az' );
```

```
INSERT INTO INSTRUCTOR VALUES('I4','Murad','Aliyev','22-JUN-1991','Qrafik Dizayner','01-Sep-2009','051-222-21-33','murad.aliyev@data.az' );
```

```
INSERT INTO INSTRUCTOR VALUES('I5','Erkin','Bashirov','24-JUL-1992','Backend Developer','01-Jan-2008','051-222-21-35','erkin.bashirov@data.az' );
```

```
INSERT INTO INSTRUCTOR VALUES('I6','Vadim','Bannikov','28-AUG-1987','Backend Developer','01-Nov-2001','051-222-21-36','vadim.bannikov@data.az' );
```

```
SELECT * FROM INSTRUCTOR;
```

SELECT * FROM INSTRUCTOR;

Script Output x

Query Result x

SQL | All Rows Fetched: 6 in 0.002 seconds

	INSTRUCTOR_ID	FIRST_NAME	LAST_NAME	DOB_DATE	SPECIALTY	HIREDATE	PHONE	EMAIL_ADDRESS
1	I1	Sevinc	Hasanova	01-JAN-90	Sql/Pl-Sql developer	01-AUG-13	051-222-21-30	sevinc.hasanova@data.az
2	I2	Vusala	Babayeva	02-FEB-89	Data analitik	01-JUN-10	051-222-21-31	vusala.babayeva@data.az
3	I3	Leyla	Azizova	12-MAR-98	Ingilis-dili muellimi	01-JUL-06	051-222-21-32	leyla.azizova@data.az
4	I4	Murad	Aliyev	22-JUN-91	Qrafik Dizayner	01-SEP-09	051-222-21-33	murad.aliyev@data.az
5	I5	Erkin	Bashirov	24-JUL-92	Backend Developer	01-JAN-08	051-222-21-35	erkin.bashirov@data.az
6	I6	Vadim	Bannikov	28-AUG-87	Backend Developer	01-NOV-01	051-222-21-36	vadim.bannikov@data.az

STUDENT table:

```
CREATE TABLE STUDENT(  
  STUDENT_ID VARCHAR2(20),  
  S_FIRST_NAME VARCHAR2(50) NOT NULL,  
  S_LAST_NAME VARCHAR2(50) NOT NULL,  
  GENDER VARCHAR2(6),  
  DOB_DATE DATE,  
  ADDRESS VARCHAR2(80),  
  PHONE VARCHAR2(40) ,  
  EMAIL_ADDRESS VARCHAR2(40),  
  INSTRUCTOR_ID VARCHAR2(20),  
  COURSE_ID VARCHAR2(20),  
  CONSTRAINT P_E UNIQUE(PHONE, EMAIL_ADDRESS),  
  CONSTRAINT STUDENT_PK PRIMARY KEY(STUDENT_ID),  
  CONSTRAINT STUDENT_FK1 FOREIGN KEY(INSTRUCTOR_ID)  
  REFERENCES INSTRUCTOR(INSTRUCTOR_ID),  
  CONSTRAINT STUDENT_FK2 FOREIGN KEY(COURSE_ID) REFERENCES  
  COURSE(COURSE_ID)  
);
```

```
INSERT INTO STUDENT  
VALUES('S1','AYTAJ','MAMMADOVA','QADIN','01-Jun-2001','ABSHERON',  
'051-706-75-70','aytacmemmedova360@gmail.com','I1','C1');
```

```
INSERT INTO STUDENT  
VALUES('S2','AYKHANA','KAZIMOVA','QADIN','07-Jan  
1999','SABUNCHU','055-650-51-11','ayxanak7@gmail.com','I3','C6');
```

INSERT INTO STUDENT

VALUES('S3','BEHRAM','ABDULLAYEV','KISHI','10-dec-2001','BAKI','050-236-65-60','behram-abdullayev@inbox.ru','I2','C2');

INSERT INTO STUDENT VALUES('S4','ELKHAN','HUSEYNOV','KISHI','11-Jun-1998','SUMGAYIT','050-226-26-20','elxan_huseynov_98@mail.com','I1','C1');

INSERT INTO STUDENT VALUES('S5','TURAL','SADIQOV','KISI','29-Sep 1998','ABSHERON','051-582-22-52','tsadixov98@mail.ru','I2','C2');

INSERT INTO STUDENT VALUES('S6','TURAL','TAGISOYLU','KISHI','31-Jan-2002','ABSHERON','055-955-29-99','ttagisoy.0220@gmail.com','I2','C2');

INSERT INTO STUDENT VALUES('S7','ELMIRA','MAMMADOVA','QADIN','27-JUL-97','BAKI','070-555-35-55','elmira.m.97@gmail.com','I1','C1');

INSERT INTO STUDENT VALUES('S8','KANAN','ADILZADE','KISHI','07-FEB-94','SUMGAYIT','050-276-78-08','kananadilzadeh7@gmail.com','I2','C2');

INSERT INTO STUDENT VALUES('S9','GULBANIZ','CAFAROVA','QADIN','10-APR-93','ABSHERON','050-689-16-60','jafarovagul@gmail.com','I1','C1');

INSERT INTO STUDENT VALUES('S10','NARMINA','SEYFULLAYEVA','QADIN','23-May-1991','ABSHERON','050-358-26-54','seyfullayeva.narmina.91@yahoo.com','I3','C6');

INSERT INTO STUDENT VALUES('S11','ASIF','NAZARALIYEV','KISHI','11-Feb-1987','BAKI','050-219-28-68','anazaraliyev.87@gmail.com','I4','C8');

INSERT INTO STUDENT VALUES('S12','ANAR','MAMMADOV','KISHI','18-Sep-1996','ABSHERON','070-232-32-02','anarmammadov9@gmail.com','I1','C1');

INSERT INTO STUDENT VALUES('S13','PERVIZ','QASIMOV','KISHI','29-Dec 1995','BAKI','055-217-02-75','gasimov.parviz01@mail.ru','I4','C8');

INSERT INTO STUDENT VALUES('S14','MANSURA','SAFARALIYEVA','QADIN','15-July


```

1989','ABSSHERON','050-536-56-20','mansurasafar89@yahoo.com','I5','C9');
INSERT INTO STUDENT VALUES('S15','SABIR','MUSAYEV','KISHI','27-Nov
1985','ABSSHERON','051-331-31-83','sabir.musaev98@gmail.com','I4','C8');
INSERT INTO STUDENT
VALUES('S16','SAMAR','TAHMAZOVA','QADIN','22-May-1997','BAKI','055-
597-77-99','samar.tahmazova@gmail.com','I3','C6');
INSERT INTO STUDENT
VALUES('S17','NERMIN','SHIRINZADE','QADIN','21-Oct -
1997','SABUNCHU','050-337-43-
08','nerminshirinzade1997@gmail.com','I4','C7');
INSERT INTO STUDENT VALUES('S18','AYFER','SURXAYLI','QADIN','23-
March-1998','ABSSHERON','050-836-06-46','ayfersurkhayli@gmail.com','I3','C5');
INSERT INTO STUDENT
VALUES('S19','NAZPARI','SEYIDZADE','QADIN','10-Oct-2000','BAKI','051-
409-45-99','nazi.seyidzade@gmail.com','I6','C10');
INSERT INTO STUDENT VALUES('S20','NABI','SEFIYEV','KISHI','11-Apr-
1999','BAKI','050-804-05-35','nabi.safiyev@gmail.com','I1','C1');
INSERT INTO STUDENT
VALUES('S21','NERMIN','SALAHOVA','QADIN','14-Aug-1997',
'ABSSHERON','051-870-23-34','nerminsalahova97@gmail.com','I6','C10');
INSERT INTO STUDENT VALUES('S22','SAMID','QAHRAMANLI','KISHI',
'11-Oct-1998','ABSSHERON','055-672-71-
70','samidqehremanli1967@gmail.com','I1','C1');
INSERT INTO STUDENT VALUES('S23','ANAR','QASIMOV','KISHI','21-
March-2001','ABSSHERON','050-425-65-
27','anargasimov.r@gmail.com','I6','C10');
INSERT INTO STUDENT VALUES('S24','EMIN','ISMAYILOV','KISHI','30-Apr
2001','ABSSHERON','051-650-67-01','emin.ismailov@mail.ru','I2','C2');
INSERT INTO STUDENT VALUES('S25','NIGAR','XALIQOVA','QADIN','07-
May-2000','BAKI','050-620-76-04','aytacmemmedova360@gmail.com','I6','C10');

```

```
INSERT INTO STUDENT VALUES('S26','FIDAN','YUSIFOVA','QADIN','13-  
Jan-2001','ABSHERON','055-509-62-  
92','fidan.huseynova1301@gmail.com','I3','C6');
```

```
INSERT INTO STUDENT VALUES('S27','YUSIF','HUSEYNOV','KISHI','28-  
Feb-2001','BAKI','051-804-31-24','yusifhuseinov@yahoo.com','I1','C4');
```

```
INSERT INTO STUDENT VALUES('S28','MURAD','HEYDAROV','KISHI','21-  
Nov-2001','ABSHERON','051-925-50-65','heydarovm@gmail.com','I6','C10');
```

```
INSERT INTO STUDENT VALUES('S29','RUFAT','JAFARLI','KISHI','11-July-  
2001','BAKI','070-311-11-12','rufatj@gmail.com','I2','C3');
```

```
INSERT INTO STUDENT VALUES('S30','AYSHAN','ARAZOVA','QADIN','10-  
Dec-1994','BAKI','055-232-31-40','ayshenarazli94@gmail.com','I2','C2');
```

Top 5 course

```
SELECT C.COURSE_NAME,COUNT(S.STUDENT_ID) AS
TELEBE_SAYI,CONCAT(I.FIRST_NAME,CONCAT(' ',I.LAST_NAME)) AS
INSTRUCTOR,
to_char(c.course_start,'mm-dd-yyyy')as date_start,
to_char(c.course_end ,'mm-dd-yyyy')as date_end,to_char(c.course_start,'hh24:mi')
as time_start,
to_char(c.course_end ,'hh24:mi') as time_end ,C.COURSE_AMOUNT
FROM STUDENT S
JOIN COURSE C ON C.COURSE_ID=S.COURSE_ID
JOIN INSTRUCTOR I ON I.INSTRUCTOR_ID=S.INSTRUCTOR_ID
GROUP BY C.COURSE_NAME ,I.FIRST_NAME,
I.LAST_NAME,C.COURSE_START,C.COURSE_END,C.COURSE_AMOUNT
ORDER BY TELEBE_SAYI DESC
FETCH NEXT 5 ROWS ONLY;
```

```
SELECT C.COURSE_NAME,COUNT(S.STUDENT_ID) AS TELEBE_SAYI,CONCAT(I.FIRST_NAME,CONCAT(' ',I.LAST_NAME)) AS INSTRUCTOR,
to_char(c.course_start,'mm-dd-yyyy')as date_start,
to_char(c.course_end ,'mm-dd-yyyy')as date_end,to_char(c.course_start,'hh24:mi') as time_start,
to_char(c.course_end ,'hh24:mi') as time_end ,C.COURSE_AMOUNT
FROM STUDENT S
JOIN COURSE C ON C.COURSE_ID=S.COURSE_ID
JOIN INSTRUCTOR I ON I.INSTRUCTOR_ID=S.INSTRUCTOR_ID
GROUP BY C.COURSE_NAME ,I.FIRST_NAME, I.LAST_NAME,C.COURSE_START,C.COURSE_END,C.COURSE_AMOUNT
ORDER BY TELEBE_SAYI DESC
FETCH NEXT 5 ROWS ONLY;
```

Query Result x

SQL | All Rows Fetched: 5 in 0.011 seconds

COURSE_NAME	TELEBE_SAYI	INSTRUCTOR	DATE_START	DATE_END	TIME_START	TIME_END	COURSE_AMOUNT
1 Programlasdirma-Oracle Database Sql	7	Sevinc Hasanova	01-01-2022	03-29-2022	10:00	12:00	600
2 Data analitika-Excel VBA	6	Vusala Babayeva	03-01-2022	04-29-2022	12:00	14:00	200
3 Programlasdirma-Python	5	Vadim Bannikov	02-01-2022	05-02-2022	19:00	21:00	800
4 Xarici diller-Danisiq ingilis-dili	4	Leyla Azizova	03-01-2022	04-29-2022	17:00	19:00	260
5 Qrafik dizayn-3D qrafika	3	Murad Aliyev	06-01-2022	08-29-2022	18:00	20:00	400