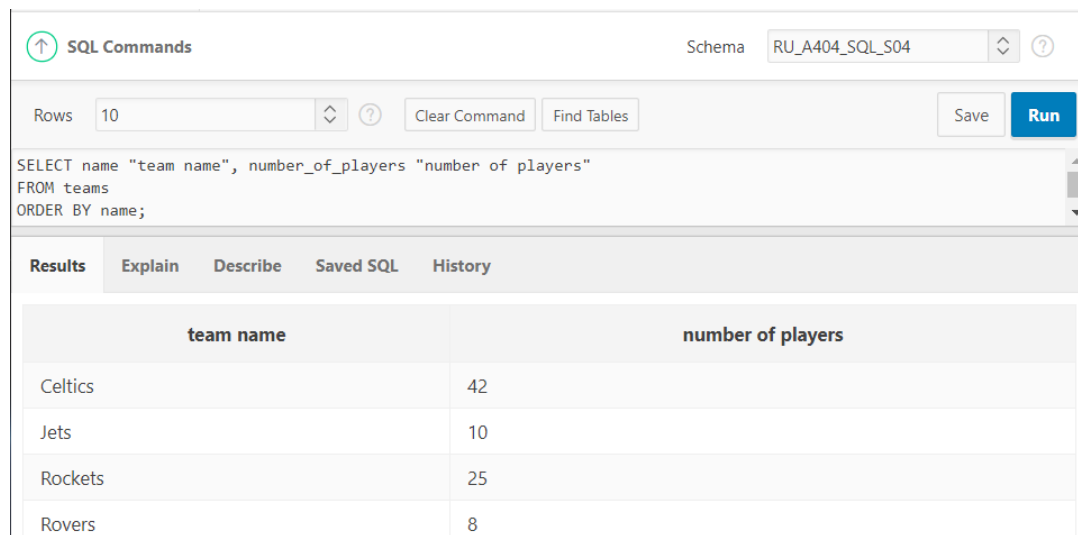


Проект 6_8_1

В этом упражнении необходимо отсортировать данные, возвращаемые при выполнении запроса, добавив фразу ORDER BY в конце инструкции SELECT

Отобразите название команды и количество игроков, отсортировав выходные данные в алфавитном порядке по названию команды. Используйте соответствующие псевдонимы для заголовков столбцов.

```
SELECT name "team name", number_of_players "number of players"
FROM teams
ORDER BY name;
```

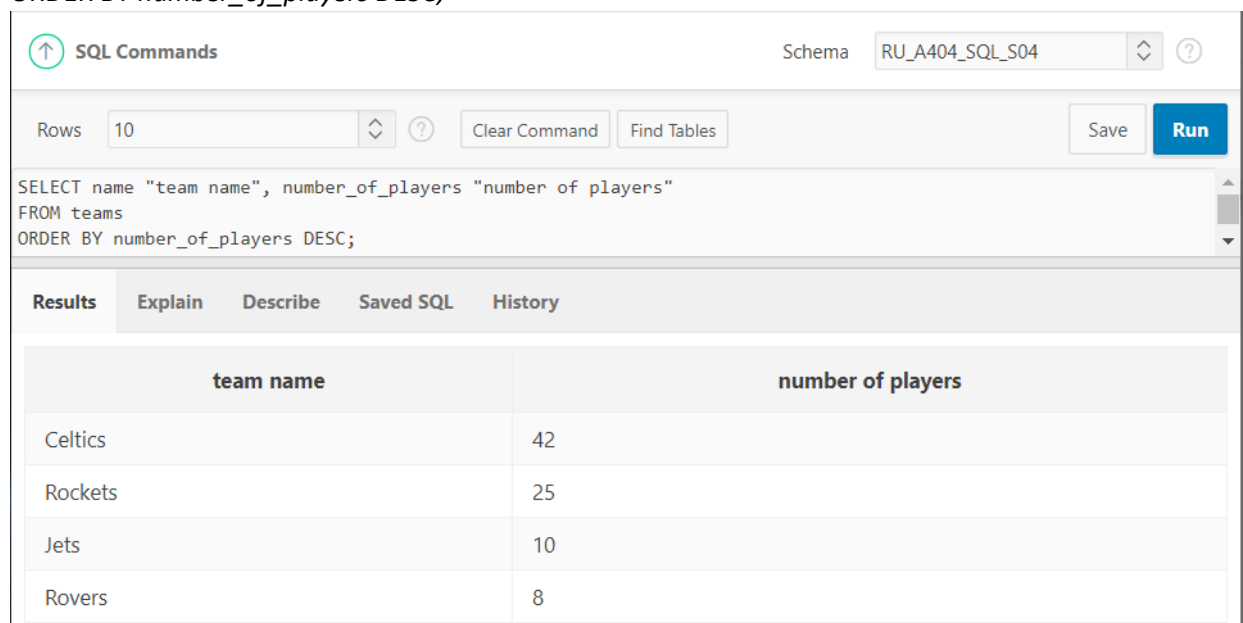


The screenshot shows a web-based SQL interface. At the top, there's a 'Schema' dropdown set to 'RU_A404_SQL_S04'. Below it, a 'Rows' dropdown is set to '10'. There are buttons for 'Clear Command', 'Find Tables', 'Save', and a blue 'Run' button. The SQL command area contains the query: `SELECT name "team name", number_of_players "number of players" FROM teams ORDER BY name;`. Below the command area, there are tabs for 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History'. The 'Results' tab is active, displaying a table with two columns: 'team name' and 'number of players'. The table contains four rows of data.

| team name | number of players |
|-----------|-------------------|
| Celtics | 42 |
| Jets | 10 |
| Rockets | 25 |
| Rovers | 8 |

Отобразите название команды и количество игроков, отсортировав выходные данные в порядке убывания количества игроков. Используйте соответствующие псевдонимы для заголовков столбцов.

```
SELECT name "team name", number_of_players "number of players"
FROM teams
ORDER BY number_of_players DESC;
```

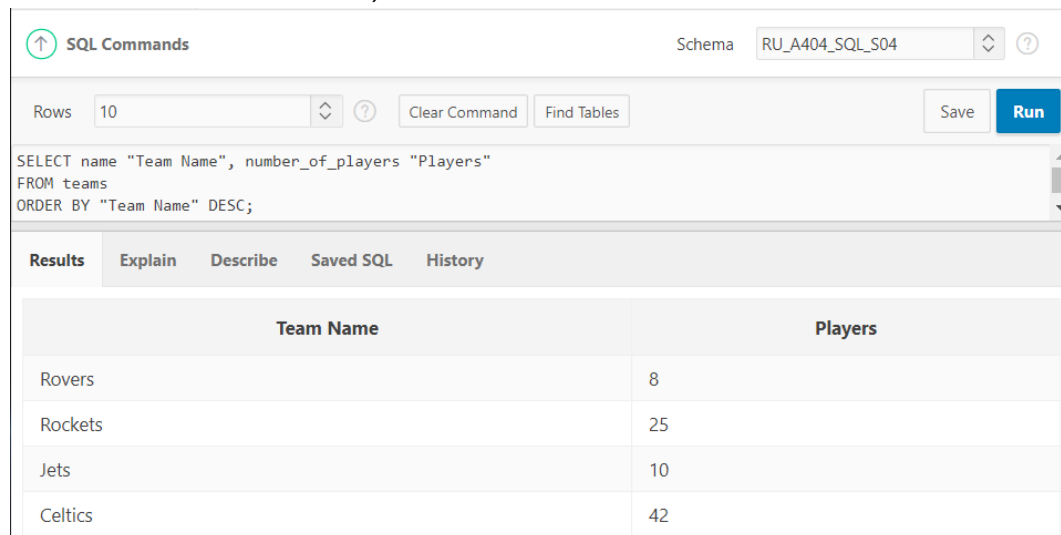


The screenshot shows the same SQL interface as before. The 'Schema' dropdown is still 'RU_A404_SQL_S04' and 'Rows' is '10'. The 'Run' button is highlighted. The SQL command area contains the query: `SELECT name "team name", number_of_players "number of players" FROM teams ORDER BY number_of_players DESC;`. The 'Results' tab is active, displaying a table with two columns: 'team name' and 'number of players'. The table contains four rows of data, sorted by the number of players in descending order.

| team name | number of players |
|-----------|-------------------|
| Celtics | 42 |
| Rockets | 25 |
| Jets | 10 |
| Rovers | 8 |

Отобразите название команды и количество игроков, отсортировав выходные данные в алфавитном порядке по названию команды. Используйте Team Name в качестве псевдонима name и Players в качестве псевдонима number of players. Отсортируйте выходные данные в порядке убывания названия, используя псевдоним во фразе ORDER BY.

```
SELECT name "Team Name", number_of_players "Players"
FROM teams
ORDER BY "Team Name" DESC;
```



The screenshot shows a SQL interface with the following components:

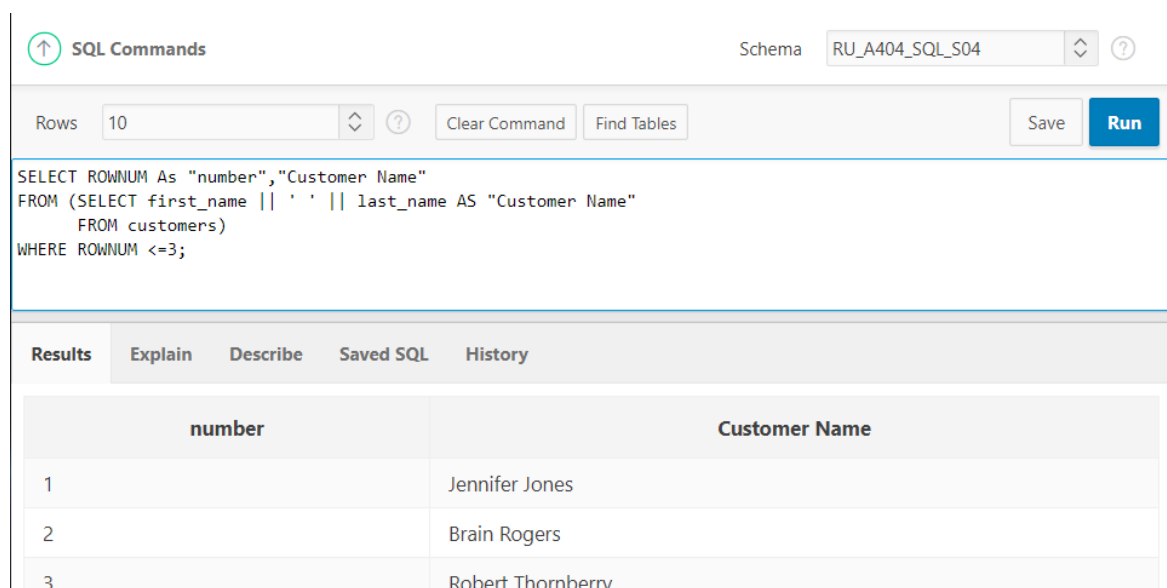
- SQL Commands:** A text area containing the query: `SELECT name "Team Name", number_of_players "Players" FROM teams ORDER BY "Team Name" DESC;`
- Schema:** RU_A404_SQL_S04
- Buttons:** Rows (10), Clear Command, Find Tables, Save, Run.
- Results:** A table with two columns: Team Name and Players.

| Team Name | Players |
|-----------|---------|
| Rovers | 8 |
| Rockets | 25 |
| Jets | 10 |
| Celtics | 42 |

Проект 6_8_2

Клиенты пронумерованы по порядку, и каждому новому клиенту присваивается больший номер клиента. Используйте TOP-N-ANALYSIS, чтобы отображались имена и фамилии трех первых клиентов. Покажите имена и фамилии клиентов в одном столбце, используя Customer Name в качестве псевдонима столбца.

```
SELECT ROWNUM As "number", "Customer Name"
FROM (SELECT first_name || ' ' || last_name AS "Customer Name"
      FROM customers)
WHERE ROWNUM <=3;
```



The screenshot shows a SQL interface with the following components:

- SQL Commands:** A text area containing the query: `SELECT ROWNUM As "number", "Customer Name" FROM (SELECT first_name || ' ' || last_name AS "Customer Name" FROM customers) WHERE ROWNUM <=3;`
- Schema:** RU_A404_SQL_S04
- Buttons:** Rows (10), Clear Command, Find Tables, Save, Run.
- Results:** A table with two columns: number and Customer Name.

| number | Customer Name |
|--------|-------------------|
| 1 | Jennifer Jones |
| 2 | Brain Rogers |
| 3 | Robert Thornberry |

Используйте подстановочную переменную, которая позволит ввести комиссионную ставку для продавцов-консультантов. На экране должны отображаться имена и фамилии продавцов-консультантов, которые получают эту комиссионную ставку. Выходные данные следует отсортировать по фамилии. Используйте соответствующие псевдонимы для заголовков столбцов.

```
SELECT first_name, last_name
FROM sales_representatives
WHERE commission_rate = :commission_rate_num
ORDER BY last_name;
```

Проверим с данными : 5

| EDIT | ID | EMAIL | FIRST_NAME | LAST_NAME | PHONE_NUMBER | COMMISSION_RATE | SUPERVISOR_ID |
|------|------|-----------------|------------|-----------|--------------|-----------------|---------------|
| | sr01 | chray@obl.com | Charles | Raymond | 0134598761 | 10 | sr01 |
| | sr02 | vwright@obl.com | Victoria | Wright | 0134598762 | 5 | sr01 |
| | sr03 | bspeed@obl.com | Barry | Speed | 0134598763 | 5 | sr01 |

Submit

| Bind Variable | Value |
|----------------------|--------------------------------|
| :COMMISSION_RATE_NUM | <input type="text" value="5"/> |

SQL Commands

SchemaRU_A404_SQL_S04

Rows10

Clear CommandFind TablesSaveRun

SELECT first_name, last_name
FROM sales_representatives
WHERE commission_rate = :commission_rate_num
ORDER BY last_name;

Results

ExplainDescribeSaved SQLHistory

| FIRST_NAME | LAST_NAME |
|------------|-----------|
| Barry | Speed |
| Victoria | Wright |

Практика 6_8

1. Выведите все поля для каждой записи в указанных таблицах, расположив их в порядке возрастания:

```
а. AD_STUDENTS, упорядоченная по REG_YEAR
SELECT *
FROM students
ORDER BY RGS_YEA;
```

SQL Commands

Schema

RU_A404_SQL_S04

Rows

10

Clear Command

Find Tables

Save

Run

SELECT *

FROM students

ORDER BY RGS_YEA;

Results

Explain

Describe

Saved SQL

History

| ID | FRST_NAME | LST_NAME | RGS_YEA | EMAIL | PNT_INF_ID |
|-----|-----------|----------|-------------|--------------------|------------|
| 720 | JACK | SMITH | 01-Jan-2012 | JSMITH@SCHOOL.EDU | 600 |
| 730 | NOAH | AUDRY | 01-Jan-2012 | NAUDRY@SCHOOL.EDU | 640 |
| 760 | JEANNE | BEN | 01-Mar-2012 | JBEN@SCHOOL.EDU | 610 |
| 750 | ROBERT | BEN | 01-Mar-2012 | RBEN@SCHOOL.EDU | 610 |
| 740 | RHONDA | TAYLOR | 01-Sep-2012 | RTAYLOR@SCHOOL.EDU | 620 |
| 770 | MILLS | CARMEN | 01-Apr-2013 | MCARMEN@SCHOOL.EDU | 630 |

b. AD_EXAM_RESULTS, упорядоченная по STUDENT_ID и COURSE_ID

```
SELECT *
FROM XAM_RESULTS
ORDER BY STU_ID, CRS_ID;
```

SQL Commands Schema RU_A404_SQL_S04

Rows 10 Clear Command Find Tables Save Run

```
SELECT *
FROM XAM_RESULTS
ORDER BY STU_ID, CRS_ID;
```

| Results | Explain | Describe | Saved SQL | History |
|---------|---------|----------|-----------|---------|
| GRADE | STU_ID | CRS_ID | XAM_ID | |
| 91 | 720 | 190 | 500 | |
| 97 | 720 | 193 | 520 | |
| 85 | 730 | 194 | 530 | |
| 87 | 730 | 195 | 540 | |
| 78 | 750 | 191 | 520 | |
| 60 | 750 | 192 | 500 | |
| 97 | 750 | 195 | 510 | |
| 60 | 760 | 191 | 530 | |
| 70 | 760 | 192 | 510 | |

c. AD_STUDENT_ATTENDANCE, упорядоченная по STUDENT_ID

```
SELECT *
FROM STUDENT_ATTENDANCES
ORDER BY STU_ID;
```

| SQL Commands | | Schema RU_A404_SQL_S04 | | |
|--|--------------------|------------------------|-------------|----------------------|
| Rows | 10 | Clear Command | Find Tables | Save Run |
| SELECT * FROM STUDENT_ATTENDANCES ORDER BY STU_ID; | | | | |
| Results | Explain | Describe | Saved SQL | History |
| NUMBER_OF_WRK_DAYS | NUMBER_OF_DAYS_OFF | ELIGIBILITY_FOR_XM | STU_ID | ACADEMIC_SESSIONS_ID |
| 180 | 21 | Y | 720 | 100 |
| 180 | 11 | Y | 730 | 200 |
| 180 | 12 | Y | 740 | 300 |
| 180 | 14 | Y | 750 | 200 |
| 180 | 15 | Y | 760 | 200 |
| 180 | 13 | Y | 770 | 300 |

d. AD_DEPARTMENTS, упорядоченная по идентификатору подразделения

```
SELECT *
FROM DEPARTMENTS_FOR_AB
ORDER BY ID;
```

| SQL Commands | | Schema RU_A404_SQL_S04 | | |
|---|------------------|------------------------|-------------|----------|
| Rows | 10 | Clear Command | Find Tables | Save Run |
| SELECT * FROM DEPARTMENTS_FOR_AB ORDER BY ID; | | | | |
| Results | Explain | Describe | Saved SQL | History |
| ID | NAME | HEAD | | |
| 10 | ACCOUNTING | MARK SMITH | | |
| 20 | BIOLOGY | DAVE GOLD | | |
| 30 | COMPUTER SCIENCE | LINDA BROWN | | |
| 40 | LITERATURE | ANITA TAYLOR | | |

2. Выведите процент дней, когда учащиеся брали выходные, и отсортируйте записи по вычисленному проценту.

```
SELECT NUMBER_OF_WRK_DAYS, NUMBER_OF_DAYS_OFF, STU_ID, ACADEMIC_SESSIONS_ID,
(NUMBER_OF_DAYS_OFF*100/(NUMBER_OF_WRK_DAYS+NUMBER_OF_DAYS_OFF)) AS "percent of
days off"
FROM STUDENT_ATTENDANCES
ORDER BY "percent of days off";
```

SQL Commands

SchemaRU_A404_SQL_S04

Rows10

Clear CommandFind Tables

SaveRun

SELECT NUMBER_OF_WRK_DAYS, NUMBER_OF_DAYS_OFF, STU_ID, ACADEMIC_SESSIONS_ID, (NUMBER_OF_DAYS_OFF*100/(NUMBER_OF_WRK_DAYS+NUMBER_OF_DAYS_OFF)) AS "percent of days off"
FROM STUDENT_ATTENDANCES
ORDER BY "percent of days off";

Results

ExplainDescribeSaved SQLHistory

| NUMBER_OF_WRK_DAYS | NUMBER_OF_DAYS_OFF | STU_ID | ACADEMIC_SESSIONS_ID | percent of days off |
|--------------------|--------------------|--------|----------------------|--|
| 180 | 11 | 730 | 200 | 5.75916230366492146596858638743455497382 |
| 180 | 12 | 740 | 300 | 6.25 |
| 180 | 13 | 770 | 300 | 6.73575129533678756476683937823834196891 |
| 180 | 14 | 750 | 200 | 7.21649484536082474226804123711340206186 |
| 180 | 15 | 760 | 200 | 7.69230769230769230769230769230769230769 |
| 180 | 21 | 720 | 100 | 10.4477611940298507462686567164179104478 |

6 rows returned in 0.01 secondsDownload

3. Выведите 5 лучших учащихся по результатам экзамена.

```
SELECT ROWNUM AS "Num", stu_id, name, grade, crs_id
FROM (SELECT stu_id, frst_name|| ' ' || lst_name AS name, grade, crs_id
      FROM student_course_details JOIN students ON student_course_details.stu_id=students.id
      ORDER BY grade)
WHERE ROWNUM <=5;
```

SQL Commands

Schema

RU_A404_SQL_S04

Rows

10

?

Clear Command

Find Tables

Save

Run

SELECT ROWNUM AS "Num", stu_id, name, grade, crs_id
FROM (SELECT stu_id, frst_name|| ' ' || lst_name AS name, grade, crs_id
FROM student_course_details JOIN students ON student_course_details.stu_id=students.id
ORDER BY grade)
WHERE ROWNUM <=5;

Results

Explain

Describe

Saved SQL

History

| Num | STU_ID | NAME | GRADE | CRS_ID |
|-----|--------|--------------|-------|--------|
| 1 | 720 | JACK SMITH | A | 190 |
| 2 | 770 | MILLS CARMEN | A | 194 |
| 3 | 750 | ROBERT BEN | A | 192 |
| 4 | 760 | JEANNE BEN | B | 190 |
| 5 | 720 | JACK SMITH | B | 193 |

4. Отобразите родительские сведения, упорядоченные по родительскому идентификатору.

```
SELECT *
FROM pnt_informations
ORDER BY id;
```

| | | | | |
|---|-----------------|----------------|-----------------|----------------|
| SQL Commands | | | | |
| Schema RU_A404_SQL_S04 | | | | |
| Rows | 10 | Clear Command | Find Tables | Save Run |
| SELECT * FROM pnt_informations ORDER BY id; | | | | |
| Results Explain Describe Saved SQL History | | | | |
| ID | PNT_1_FRST_NAME | PNT_1_LST_NAME | PNT_2_FRST_NAME | PNT_2_LST_NAME |
| 600 | NEIL | SMITH | DORIS | SMITH |
| 610 | WILLIAM | BEN | NITA | BEN |
| 620 | SEAN | TAYLOR | RHEA | TAYLOR |
| 630 | DAVE | CARMEN | CATHY | CARMEN |
| 640 | JOHN | AUDRY | JANE | AUDRY |

Проект 6_9_1

Задание 1

Отобразите всю информацию о продавцах-консультантах и их адресах, используя естественное соединение.

*SELECT *
FROM sales_representatives NATURAL JOIN SALES_REP_ADDRESSES;*

SQL Commands

SchemaRU_A404_SQL_S04

Rows10

Clear Command

Find Tables

Save

Run

SELECT *
FROM sales_representatives NATURAL JOIN SALES_REP_ADDRESSES;

Results

Explain

Describe

Saved SQL

History

| ID | EMAIL | FIRST_NAME | LAST_NAME | PHONE_NUMBER | COMMISSION_RATE | SUPERVISOR_ID | ADDRESS_LINE_1 | ADDRESS_LINE_2 | CITY | ZIP_CODE |
|------|-----------------|------------|-----------|--------------|-----------------|---------------|-----------------|----------------|---------|----------|
| sr01 | chray@obl.com | Charles | Raymond | 0134598761 | 10 | sr01 | 12 Cherry Lane | Denton | Detroit | DT48211 |
| sr02 | vwright@obl.com | Victoria | Wright | 0134598762 | 5 | sr01 | 87 Blossom Hill | Uptown | Detroit | DT52314 |
| sr03 | bspeed@obl.com | Barry | Speed | 0134598763 | 5 | sr01 | 12 Junction Row | Skinflats | Detroit | DT52564 |

Адаптируйте запрос из предыдущего вопроса, чтобы отображать только данные из полей id, first name, last name, address line 1, address line 2, city, email и phone_number для продавцов-консультантов

*SELECT id, first_name, last_name, address_line_1, address_line_2, city, email , phone_number
FROM sales_representatives NATURAL JOIN SALES_REP_ADDRESSES;*

SQL Commands

Schema

RU_A404_SQL_S04

Rows

10

Clear Command

Find Tables

Save

Run

SELECT id, first_name, last_name, address_line_1, address_line_2, city, email , phone_number
FROM sales_representatives NATURAL JOIN SALES_REP_ADDRESSES;

Results

Explain

Describe

Saved SQL

History

| ID | FIRST_NAME | LAST_NAME | ADDRESS_LINE_1 | ADDRESS_LINE_2 | CITY | EMAIL | PHONE_NUMBER |
|------|------------|-----------|-----------------|----------------|---------|-----------------|--------------|
| sr01 | Charles | Raymond | 12 Cherry Lane | Denton | Detroit | chray@obl.com | 0134598761 |
| sr02 | Victoria | Wright | 87 Blossom Hill | Uptown | Detroit | vwright@obl.com | 0134598762 |
| sr03 | Barry | Speed | 12 Junction Row | Skinflats | Detroit | bspeed@obl.com | 0134598763 |

Задание 2

Адаптируйте предыдущий запрос, чтобы использовать фразу USING, а не естественное соединение.

```
SELECT id, first_name, last_name, address_line_1, address_line_2, city, email , phone_number
FROM sales_representatives JOIN SALES_REP_ADDRESSES
USING (id) ;
```

SQL Commands

SchemaRU_A404_SQL_S04

Rows10

Clear Command

Find Tables

Save

Run

SELECT id, first_name, last_name, address_line_1, address_line_2, city, email , phone_number
FROM sales_representatives JOIN SALES_REP_ADDRESSES
USING (id) ;

Results

Explain

Describe

Saved SQL

History

| ID | FIRST_NAME | LAST_NAME | ADDRESS_LINE_1 | ADDRESS_LINE_2 | CITY | EMAIL | PHONE_NUMBER |
|------|------------|-----------|-----------------|----------------|---------|-----------------|--------------|
| sr01 | Charles | Raymond | 12 Cherry Lane | Denton | Detroit | chray@obl.com | 0134598761 |
| sr02 | Victoria | Wright | 87 Blossom Hill | Uptown | Detroit | vwright@obl.com | 0134598762 |
| sr03 | Barry | Speed | 12 Junction Row | Skinflats | Detroit | bspeed@obl.com | 0134598763 |

Отобразите всю информацию о товарах и истории цен, соединив таблицы items и price_history

```
SELECT *
FROM items JOIN price_history
USING (itm_number) ;
```

↑

SQL Commands

Schema

RU_A404_SQL_S04

?

Rows

10

↕ ?

Clear Command

Find Tables

Save

Run

SELECT *

FROM items JOIN price_history

USING (itm_number) ;

Results

Explain

Describe

Saved SQL

History

| ITM_NUMBER | NAME | DESCRIPTION | CATEGORY | COLOR | Size | ILT_ID | START_DATE | START_TIME | PRICE | END_DATE | END_TIME |
|------------|-------------|-----------------------------|-----------|-------|------|-------------|-------------|-------------|-------|-------------|-------------|
| im01101044 | gloves | catcher mitt | clothing | brown | m | il010230124 | 17-Jun-2017 | 17-Jun-2016 | 4.99 | 15-Apr-2020 | 15-Apr-2020 |
| im01101045 | under shirt | top worn under the game top | clothing | white | s | il010230125 | 25-Nov-2016 | 25-Nov-2016 | 14.99 | 25-Jan-2017 | 25-Jan-2017 |
| im01101045 | under shirt | top worn under the game top | clothing | white | s | il010230125 | 25-Jan-2017 | 25-Jan-2017 | 8.99 | 25-Jan-2017 | 25-Jan-2017 |
| im01101045 | under shirt | top worn under the game top | clothing | white | s | il010230125 | 26-Jan-2017 | 26-Jan-2017 | 15.99 | 15-Apr-2020 | 15-Apr-2020 |
| im01101046 | socks | team socks with emblem | clothing | range | l | il010230126 | 12-Feb-2017 | 12-Feb-2017 | 7.99 | 15-Apr-2020 | 15-Apr-2020 |
| im01101047 | game top | team shirt with emblem | clothing | range | m | il010230127 | 25-Apr-2017 | 25-Apr-2017 | 24.99 | 15-Apr-2020 | 15-Apr-2020 |
| im01101048 | premium bat | high quaiity basball bat | equipment | - | - | il010230128 | 31-May-2017 | 31-May-2017 | 149 | 15-Apr-2020 | 15-Apr-2020 |
| im01101048 | premium bat | high quaiity basball bat | equipment | - | - | il010230128 | 15-Apr-2020 | 15-Apr-2020 | 99.99 | - | - |

Задание 3

Используйте фразу ON для соединения таблиц customer и sales representative, чтобы отобразить номер клиента, имя клиента, фамилию клиента, номер телефона клиента, адрес электронной почты клиента, идентификатор продавца-консультанта, имя продавца-консультанта, фамилию продавца-консультанта и адрес электронной почты продавца-консультанта. Потребуется использовать псевдоним таблицы, потому что обе таблицы имеют столбцы с одинаковым именем.

```
SELECT c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email,
r.id, r.first_name, r.last_name, r.email
FROM customers c JOIN sales_representatives r
ON (c.sre_id = r.id);
```

SQL Commands Schema RU_A404_SQL_S04

Rows 10 Clear Command Find Tables Save Run

SELECT c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email,
r.id, r.first_name, r.last_name, r.email
FROM customers c JOIN sales_representatives r
ON (c.sre_id = r.id);

Results Explain Describe Saved SQL History

Bottom Splitter

| CTR_NUMBER | FIRST_NAME | LAST_NAME | PHONE_NUMBER | EMAIL | ID | FIRST_NAME | LAST_NAME | EMAIL |
|------------|------------|------------|--------------|-----------------------------|------|------------|-----------|----------------|
| c00001 | Robert | Thornberry | 01234567898 | bob.thornberry@heatmail.com | sr01 | Charles | Raymond | chray@obl.com |
| c00101 | John | Doe | 03216547808 | unknown@here.com | sr01 | Charles | Raymond | chray@obl.com |
| c01986 | Maria | Galant | 01442736589 | margal87@delphiview.com | sr03 | Barry | Speed | bspeed@obl.com |

Задание 4

Используя ответ задачи 3, добавьте соединение, которое позволит включить в результаты имя команды, представляющей клиента.

```
SELECT c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email,
r.id, r.first_name, r.last_name, r.email, t.name
FROM customers c
JOIN sales_representatives r
ON (c.sre_id = r.id)
JOIN teams t
ON c.tem_id = t.id;
```

SQL Commands Schema RU_A404_SQL_S04

Rows 10 Clear Command Find Tables Save Run

SELECT c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email,
r.id, r.first_name, r.last_name, r.email, t.name
FROM customers c
JOIN sales_representatives r
ON (c.sre_id = r.id)
JOIN teams t
ON c.tem_id = t.id;

Results Explain Describe Saved SQL History

| CTR_NUMBER | FIRST_NAME | LAST_NAME | PHONE_NUMBER | EMAIL | ID | FIRST_NAME | LAST_NAME | EMAIL | NAME |
|------------|------------|------------|--------------|-----------------------------|------|------------|-----------|----------------|---------|
| c00001 | Robert | Thornberry | 01234567898 | bob.thornberry@heatmail.com | sr01 | Charles | Raymond | chray@obl.com | Rockets |
| c00101 | John | Doe | 03216547808 | unknown@here.com | sr01 | Charles | Raymond | chray@obl.com | Celtics |
| c01986 | Maria | Galant | 01442736589 | margal87@delphiview.com | sr03 | Barry | Speed | bspeed@obl.com | Rovers |

Задание 5

Используя ответ задачи 4, добавьте дополнительное условие, чтобы показать результаты для клиента, имеющего номер c00001.

```
SELECT c.ctr_number, c.first_name, c.last_name, c.phone_number, c.email,  
r.id, r.first_name, r.last_name, r.email, t.name  
FROM customers c  
JOIN sales_representatives r  
ON (c.sre_id = r.id)  
JOIN teams t  
ON c.tem_id = t.id  
WHERE c.ctr_number = 'c00001';
```

The screenshot shows a SQL query execution interface. At the top, there's a 'SQL Commands' tab. Below it, a schema dropdown is set to 'RU_A404_SQL_S04'. The query is entered in a text area, and the 'Run' button is highlighted. Below the query, the 'Results' tab is active, showing a table with 10 columns and 1 row of data.

| CTR_NUMBER | FIRST_NAME | LAST_NAME | PHONE_NUMBER | EMAIL | ID | FIRST_NAME | LAST_NAME | EMAIL | NAME |
|------------|------------|------------|--------------|-----------------------------|------|------------|-----------|---------------|---------|
| c00001 | Robert | Thornberry | 01234567898 | bob.thornberry@heatmail.com | sr01 | Charles | Raymond | chray@obl.com | Rockets |

Задание 6

Напишите запрос, чтобы отобразить название и стоимость товара с номером im01101045 на 12 декабря 2016 г.

```
SELECT 'The cost of the ' || i.name || ' on this day was ' || p.price AS message  
FROM items i JOIN price_history p  
USING (itm_number)  
WHERE itm_number = 'im01101045' AND start_date < '12-Dec-2016';
```

Исправила

```
SELECT 'The cost of the ' || i.name || ' on this day was ' || p.price AS message  
FROM items i JOIN price_history p  
USING (itm_number)  
WHERE itm_number = 'im01101045' AND start_date <= '12-Dec-2016' AND (end_date >= '12-Dec-2016'  
OR end_date IS NULL);
```

Может случиться такое, что эта цена является настоящей, тогда дата конца действия будет null

| EDIT | START_DATE | START_TIME | PRICE | END_DATE | END_TIME | ITM_NUMBER |
|------|-------------|-------------|-------|-------------|-------------|------------|
| | 17-Jun-2017 | 17-Jun-2016 | 4.99 | 15-Apr-2020 | 15-Apr-2020 | im01101044 |
| | 25-Nov-2016 | 25-Nov-2016 | 14.99 | 25-Jan-2017 | 25-Jan-2017 | im01101045 |
| | 25-Jan-2017 | 25-Jan-2017 | 8.99 | 25-Jan-2017 | 25-Jan-2017 | im01101045 |
| | 26-Jan-2017 | 26-Jan-2017 | 15.99 | 15-Apr-2020 | 15-Apr-2020 | im01101045 |
| | 12-Feb-2017 | 12-Feb-2017 | 7.99 | 15-Apr-2020 | 15-Apr-2020 | im01101046 |
| | 25-Apr-2017 | 25-Apr-2017 | 24.99 | 15-Apr-2020 | 15-Apr-2020 | im01101047 |
| | 31-May-2017 | 31-May-2017 | 149 | 15-Apr-2020 | 15-Apr-2020 | im01101048 |
| | 15-Apr-2020 | 15-Apr-2020 | 99.99 | - | - | im01101048 |

SQL Commands
 Schema RU_A404_SQL_S04

Rows 10
Clear Command Find Tables
Save Run

```

SELECT 'The cost of the ' || i.name || ' on this day was ' || p.price AS message
FROM items i JOIN price_history p
USING (itm_number)
WHERE itm_number = 'im01101045' AND start_date <= '12-Dec-2016' AND (end_date >= '12-Dec-2016' OR end_date IS NULL);
    
```

Results Explain Describe Saved SQL History

MESSAGE

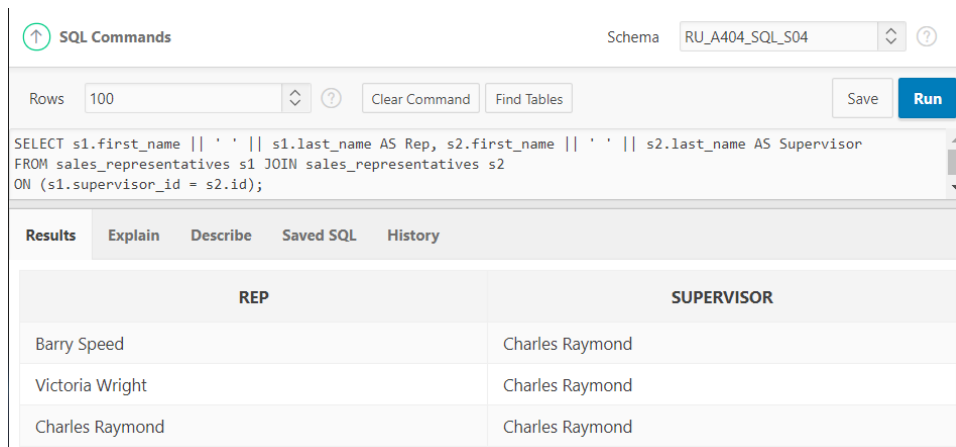
The cost of the under shirt on this day was 14.99

Проект 6_9_2

Задание 1

Напишите запрос, чтобы отобразить руководителя каждого из продавцовконсультантов. Информация должна отображаться в двух столбцах: в первом столбце — имя и фамилия продавца-консультанта, во втором столбце — имя и фамилия руководителя. Используйте псевдонимы столбцов: Rep и Supervisor.

```
SELECT s1.first_name || ' ' || s1.last_name AS Rep, s2.first_name || ' ' || s2.last_name AS Supervisor
FROM sales_representatives s1 JOIN sales_representatives s2
ON (s1.supervisor_id = s2.id);
```

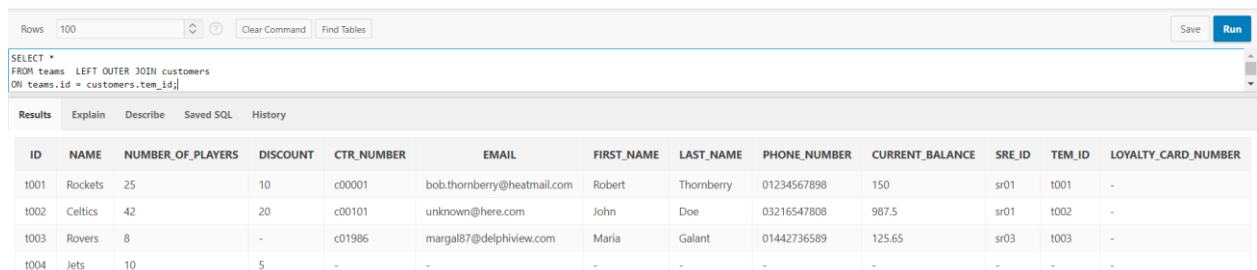


| REP | SUPERVISOR |
|-----------------|-----------------|
| Barry Speed | Charles Raymond |
| Victoria Wright | Charles Raymond |
| Charles Raymond | Charles Raymond |

Задание 2

Напишите запрос, чтобы отобразить всю информацию о команде и клиенте, не совпадающую с данными в таблице слева (team).

```
SELECT *
FROM teams LEFT OUTER JOIN customers
ON teams.id = customers.tem_id;
```



| ID | NAME | NUMBER_OF_PLAYERS | DISCOUNT | CTR_NUMBER | EMAIL | FIRST_NAME | LAST_NAME | PHONE_NUMBER | CURRENT_BALANCE | SRE_ID | TEM_ID | LOYALTY_CARD_NUMBER |
|------|---------|-------------------|----------|------------|-----------------------------|------------|------------|--------------|-----------------|--------|--------|---------------------|
| 1001 | Rockets | 25 | 10 | c00001 | bob.thornberry@heatmail.com | Robert | Thornberry | 01234567898 | 150 | sr01 | t001 | - |
| 1002 | Celtics | 42 | 20 | c00101 | unknown@here.com | John | Doe | 03216547808 | 987.5 | sr01 | t002 | - |
| 1003 | Rovers | 8 | - | c01986 | margal87@delphiview.com | Maria | Galant | 01442736589 | 125.65 | sr03 | t003 | - |
| 1004 | Jets | 10 | 5 | - | - | - | - | - | - | - | - | - |

Задание 3

Создайте декартово произведение таблиц customer и sales representative

```
SELECT *
FROM customers, sales_representatives;
```

Получившаяся таблица расположена ниже. Скрин сделать не получилось, так как таблица оказалась слишком большой.

| CTR_NUMBER | EMAIL | FIRST_NAME | LAST_NAME | PHONE_NUMBER | CUT_B | SRE_ID | TEM_ID | LOY_C_NUM | ID | EMAIL | FIRST_NAME | LAST_NAME | PHONE_NUMBER | COM_RAT | SUPERVISOR_ID |
|------------|-----------------------------|------------|------------|--------------|--------|--------|--------|-----------|------|-----------------|------------|-----------|--------------|---------|---------------|
| c00012 | Jjones@freemail.com | Jennifer | Jones | 1505214598 | 0 | - | - | lc1015 | sr01 | chray@obl.com | Charles | Raymond | 134598761 | 10 | sr01 |
| c02001 | brianrog@hootech.com | Brain | Rogers | 1654564898 | 50 | - | - | lc4587 | sr01 | chray@obl.com | Charles | Raymond | 134598761 | 10 | sr01 |
| c00001 | bob.thornberry@heatmail.com | Robert | Thornberry | 1234567898 | 150 | sr01 | t001 | - | sr01 | chray@obl.com | Charles | Raymond | 134598761 | 10 | sr01 |
| c00101 | unknown@here.com | John | Doe | 3216547808 | 987.5 | sr01 | t002 | - | sr01 | chray@obl.com | Charles | Raymond | 134598761 | 10 | sr01 |
| c00103 | MurciaA@globaltech.com | Andrew | Murcia | 7715246890 | 85 | - | - | lc2341 | sr01 | chray@obl.com | Charles | Raymond | 134598761 | 10 | sr01 |
| c01986 | margal87@delphiview.com | Maria | Galant | 1442736589 | 125.65 | sr03 | t003 | - | sr01 | chray@obl.com | Charles | Raymond | 134598761 | 10 | sr01 |
| c00012 | Jjones@freemail.com | Jennifer | Jones | 1505214598 | 0 | - | - | lc1015 | sr02 | vwright@obl.com | Victoria | Wright | 134598762 | 5 | sr01 |
| c02001 | brianrog@hootech.com | Brain | Rogers | 1654564898 | 50 | - | - | lc4587 | sr02 | vwright@obl.com | Victoria | Wright | 134598762 | 5 | sr01 |
| c00001 | bob.thornberry@heatmail.com | Robert | Thornberry | 1234567898 | 150 | sr01 | t001 | - | sr02 | vwright@obl.com | Victoria | Wright | 134598762 | 5 | sr01 |
| c00101 | unknown@here.com | John | Doe | 3216547808 | 987.5 | sr01 | t002 | - | sr02 | vwright@obl.com | Victoria | Wright | 134598762 | 5 | sr01 |
| c00103 | MurciaA@globaltech.com | Andrew | Murcia | 7715246890 | 85 | - | - | lc2341 | sr02 | vwright@obl.com | Victoria | Wright | 134598762 | 5 | sr01 |
| c01986 | margal87@delphiview.com | Maria | Galant | 1442736589 | 125.65 | sr03 | t003 | - | sr02 | vwright@obl.com | Victoria | Wright | 134598762 | 5 | sr01 |
| c00012 | Jjones@freemail.com | Jennifer | Jones | 1505214598 | 0 | - | - | lc1015 | sr03 | bspeed@obl.com | Barry | Speed | 134598763 | 5 | sr01 |
| c02001 | brianrog@hootech.com | Brain | Rogers | 1654564898 | 50 | - | - | lc4587 | sr03 | bspeed@obl.com | Barry | Speed | 134598763 | 5 | sr01 |
| c00001 | bob.thornberry@heatmail.com | Robert | Thornberry | 1234567898 | 150 | sr01 | t001 | - | sr03 | bspeed@obl.com | Barry | Speed | 134598763 | 5 | sr01 |
| c00101 | unknown@here.com | John | Doe | 3216547808 | 987.5 | sr01 | t002 | - | sr03 | bspeed@obl.com | Barry | Speed | 134598763 | 5 | sr01 |
| c00103 | MurciaA@globaltech.com | Andrew | Murcia | 7715246890 | 85 | - | - | lc2341 | sr03 | bspeed@obl.com | Barry | Speed | 134598763 | 5 | sr01 |
| c01986 | margal87@delphiview.com | Maria | Galant | 1442736589 | 125.65 | sr03 | t003 | - | sr03 | bspeed@obl.com | Barry | Speed | 134598763 | 5 | sr01 |

Практика 6_9

Задание 1

Выведите различные курсы, предлагаемые подразделениями школы.

```
SELECT *  
FROM courses;
```

The screenshot shows a SQL Command window with the following elements:

- SQL Commands:** A tab with an upward arrow icon.
- Schema:** A dropdown menu set to 'RU_A404_SQL_S04'.
- Rows:** A dropdown menu set to '100'.
- Buttons:** 'Clear Command', 'Find Tables', 'Save', and 'Run'.
- SQL Command:**

```
SELECT *  
FROM courses;
```
- Results Tab:** A tab with 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History' sub-tabs. The 'Results' sub-tab is active.
- Table:** A table with 8 columns: ID, NAME, DPT_ID, ONLINES_LGN_ID, STD_BLD, STD_ROOM, DATE_TIME, and ACADEMIC_SESSIONS_ID. It contains 6 rows of data.

| ID | NAME | DPT_ID | ONLINES_LGN_ID | STD_BLD | STD_ROOM | DATE_TIME | ACADEMIC_SESSIONS_ID |
|-----|-------------------------------|--------|----------------|------------|----------|-----------|----------------------|
| 194 | GENERAL BIOLOGY | 20 | BIO123 | - | - | - | 200 |
| 193 | STRATEGIC TAX PLANNING FOR BU | 10 | TAX123 | - | - | - | 100 |
| 195 | CELL BIOLOGY | 20 | - | BUILDING D | 401 | MWF 9-10 | 200 |
| 190 | PRINCIPLES OF ACCOUNTING | 10 | - | BUILDING A | 101 | MWF 12-1 | 100 |
| 191 | INTRODUCTION TO BUSINESS LAW | 10 | - | BUILDING B | 201 | THUR 2-4 | 100 |
| 192 | COST ACCOUNTING | 10 | - | BUILDING C | 301 | TUES 5-7 | 100 |

Задание 2

Выведите курсы, предлагаемые в осенний период.

```
SELECT *  
FROM courses  
WHERE academic_session_id = 100;
```

The screenshot shows a SQL Command window with the following elements:

- SQL Commands:** A tab with an upward arrow icon.
- Schema:** A dropdown menu set to 'RU_A404_SQL_S04'.
- Rows:** A dropdown menu set to '100'.
- Buttons:** 'Clear Command', 'Find Tables', 'Save', and 'Run'.
- SQL Command:**

```
SELECT *  
FROM courses  
WHERE academic_session_id = 100;
```
- Results Tab:** A tab with 'Results', 'Explain', 'Describe', 'Saved SQL', and 'History' sub-tabs. The 'Results' sub-tab is active.
- Table:** A table with 8 columns: ID, NAME, DPT_ID, ONLINES_LGN_ID, STD_BLD, STD_ROOM, DATE_TIME, and ACADEMIC_SESSIONS_ID. It contains 4 rows of data.

| ID | NAME | DPT_ID | ONLINES_LGN_ID | STD_BLD | STD_ROOM | DATE_TIME | ACADEMIC_SESSIONS_ID |
|-----|-------------------------------|--------|----------------|------------|----------|-----------|----------------------|
| 193 | STRATEGIC TAX PLANNING FOR BU | 10 | TAX123 | - | - | - | 100 |
| 190 | PRINCIPLES OF ACCOUNTING | 10 | - | BUILDING A | 101 | MWF 12-1 | 100 |
| 191 | INTRODUCTION TO BUSINESS LAW | 10 | - | BUILDING B | 201 | THUR 2-4 | 100 |
| 192 | COST ACCOUNTING | 10 | - | BUILDING C | 301 | TUES 5-7 | 100 |

Задание 3

Выведите сведения о курсах, подразделении, предлагающем эти курсы, и учащихся, зарегистрировавшихся на эти курсы

```

SELECT c.name AS course, s.frst_name || ' ' || s.lst_name AS student, d.name AS department
FROM courses c
JOIN student_course_details scd ON scd.crs_id = c.id
JOIN students s ON scd.stu_id = s.id
JOIN departments_for_ab d ON c.dpt_id = d.id
ORDER BY c.name;

```

| SQL Commands | | Schema | RU_A404_SQL_S04 |
|--|---------|---------------|-----------------|
| Rows | 100 | Clear Command | Find Tables |
| SELECT c.name AS course, s.frst_name ' ' s.lst_name AS student, d.name AS department FROM courses c JOIN student_course_details scd ON scd.crs_id = c.id | | | |
| Results | Explain | Describe | Saved SQL |
| COURSE | | STUDENT | DEPARTMENT |
| CELL NIOLOGY | | RHONDA TAYLOR | BIOLOGY |
| COST ACCOUNTING | | JEANNE BEN | ACCOUNTING |
| COST ACCOUNTING | | MILLS CARMEN | ACCOUNTING |
| COST ACCOUNTING | | ROBERT BEN | ACCOUNTING |
| GENERAL BIOLOGY | | MILLS CARMEN | BIOLOGY |
| INTRODUCTION TO BUISNESS LAW | | NOAH AUDRY | ACCOUNTING |
| PRINCIPLES OF ACCOUNTING | | JACK SMITH | ACCOUNTING |
| PRINCIPLES OF ACCOUNTING | | JEANNE BEN | ACCOUNTING |
| STRATEGIC TAX PLANNING FOR BU | | MILLS CARMEN | ACCOUNTING |
| STRATEGIC TAX PLANNING FOR BU | | JACK SMITH | ACCOUNTING |

Задание 4

Выведите сведения о курсах, подразделении 20, предлагающем эти курсы, и учащихся, зарегистрировавшихся на эти курсы.

```

SELECT c.name AS course, s.frst_name || ' ' || s.lst_name AS student, d.name AS department
FROM courses c
JOIN student_course_details scd ON scd.crs_id = c.id
JOIN students s ON scd.stu_id = s.id
JOIN departments_for_ab d ON c.dpt_id = d.id
WHERE d.id = 20
ORDER BY c.name;

```

SQL Commands

Schema
RU_A404_SQL_S04

Rows
100
Clear Command
Find Tables
Save
Run

```

SELECT c.name AS course, s.frst_name || ' ' || s.lst_name AS student, d.name AS department
FROM courses c
JOIN student_course_details scd ON scd.crs_id = c.id
JOIN students s ON scd.stu_id = s.id
JOIN departments_for_ab d ON c.dpt_id = d.id
WHERE d.id = 20

```

Results
Explain
Describe
Saved SQL
History

| COURSE | STUDENT | DEPARTMENT |
|-----------------|---------------|------------|
| CELL NIOLOGY | RHONDA TAYLOR | BIOLOGY |
| GENERAL BIOLOGY | MILLS CARMEN | BIOLOGY |

Задание 5

Напишите запрос, чтобы отобразить сведения об экзаменационных баллах, полученных учащимися, зарегистрировавшимися на курс COURSE_ID в диапазоне от 190 до 192.

```

SELECT s.frst_name || ' ' || s.lst_name AS student, c.name course, grade
FROM xam_results xr JOIN students s ON xr.stu_id = s.id
JOIN courses c ON c.id = xr.crs_id
WHERE xr.crs_id BETWEEN 190 AND 192;

```

Packaged Apps

SQL Commands

Schema
RU_A404_SQL_S04

Rows
100
Clear Command
Find Tables
Save
Run

```

SELECT s.frst_name || ' ' || s.lst_name AS student, c.name course, grade
FROM xam_results xr JOIN students s ON xr.stu_id = s.id
JOIN courses c ON c.id = xr.crs_id
WHERE xr.crs_id BETWEEN 190 AND 192;

```

Results
Explain
Describe
Saved SQL
History

| STUDENT | COURSE | GRADE |
|------------|------------------------------|-------|
| JACK SMITH | PRINCIPLES OF ACCOUNTING | 91 |
| ROBERT BEN | INTRODUCTION TO BUISNESS LAW | 78 |
| JEANNE BEN | COST ACCOUNTING | 70 |
| ROBERT BEN | COST ACCOUNTING | 60 |
| JEANNE BEN | COST ACCOUNTING | 65 |
| JEANNE BEN | INTRODUCTION TO BUISNESS LAW | 60 |

Задание 6

Извлеките строки из таблицы AD_EXAM_RESULTS, даже если в таблице AD_COURSES нет соответствующих строк.

```
SELECT *
FROM xam_results xr LEFT OUTER JOIN courses c ON c.id = xr.crs_id;
```

SQL Commands

SchemaRU_A404_SQL_S04

Rows100Clear CommandFind TablesSaveRun

SELECT *
FROM xam_results xr LEFT OUTER JOIN courses c ON c.id = xr.crs_id;

Results

ExplainDescribeSaved SQLHistory

| GRADE | STU_ID | CRS_ID | XAM_ID | ID | NAME | DPT_ID | ONLINES_LGN_ID | STD_BLD | STD_ROOM | DATE_TIME | ACADEMIC_SESSIONS_ID |
|-------|--------|--------|--------|-----|-------------------------------|--------|----------------|------------|----------|-----------|----------------------|
| 91 | 720 | 190 | 500 | 190 | PRINCIPLES OF ACCOUNTING | 10 | - | BUILDING A | 101 | MWF 12-1 | 100 |
| 87 | 730 | 195 | 540 | 195 | CELL NIOLOGY | 20 | - | BUILDING D | 401 | MWF 9-10 | 200 |
| 85 | 730 | 194 | 530 | 194 | GENERAL BIOLOGY | 20 | BIO123 | - | - | - | 200 |
| 97 | 750 | 195 | 510 | 195 | CELL NIOLOGY | 20 | - | BUILDING D | 401 | MWF 9-10 | 200 |
| 78 | 750 | 191 | 520 | 191 | INTRODUCTION TO BUISNESS LAW | 10 | - | BUILDING B | 201 | THUR 2-4 | 100 |
| 70 | 760 | 192 | 510 | 192 | COST ACCOUNTING | 10 | - | BUILDING C | 301 | TUES 5-7 | 100 |
| 97 | 720 | 193 | 520 | 193 | STRATEGIC TAX PLANNING FOR BU | 10 | TAX123 | - | - | - | 100 |
| 60 | 750 | 192 | 500 | 192 | COST ACCOUNTING | 10 | - | BUILDING C | 301 | TUES 5-7 | 100 |
| 65 | 760 | 192 | 540 | 192 | COST ACCOUNTING | 10 | - | BUILDING C | 301 | TUES 5-7 | 100 |
| 60 | 760 | 191 | 530 | 191 | INTRODUCTION TO BUISNESS LAW | 10 | - | BUILDING B | 201 | THUR 2-4 | 100 |

Задание 7

Что получится, если выполнить данную инструкцию?

```
SELECT * FROM EXAMS CROSS JOIN EXAM_TYPES;
```

Создадим векторное произведение или декартовое произведение двух таблиц

SQL Commands

SchemaRU_A404_SQL_S04

Rows100Clear CommandFind TablesSaveRun

SELECT * FROM EXAMS CROSS JOIN EXAM_TYPES;

Results

ExplainDescribeSaved SQLHistory

| ID | STR_DATE | XAM_TYPES_TYP | COURSE_ID | TYP | NAME | DSC |
|-----|-------------|---------------|-----------|-----|--------------------------|-----------------------------|
| 540 | 02-Apr-2014 | TF | 194 | MCE | Multiple Choice Exams | CHOOSE MORE THAN ONE ANSWER |
| 540 | 02-Apr-2014 | TF | 194 | TF | TRUE AND FALSE Exams | CHOOSE EITHER TRUE OR FALSE |
| 540 | 02-Apr-2014 | TF | 194 | ESS | ESSAY Exams | WRITE PARAGRAPHS |
| 540 | 02-Apr-2014 | TF | 194 | SA | SHORT ANSWER Exams | WRITE SHORT ANSWERS |
| 540 | 02-Apr-2014 | TF | 194 | FIB | FILL IN THE BLANKS Exams | TYPE IN THE CORRECT ANSWER |
| 500 | 12-Sep-2013 | MCE | 190 | MCE | Multiple Choice Exams | CHOOSE MORE THAN ONE ANSWER |

| | | | | | | |
|-----|-------------|-----|-----|-----|--------------------------|-----------------------------|
| 500 | 12-Sep-2013 | MCE | 190 | TF | TRUE AND FALSE Exams | CHOOSE EITHER TRUE OR FALSE |
| 500 | 12-Sep-2013 | MCE | 190 | ESS | ESSAY Exams | WRITE PARAGRAPHS |
| 500 | 12-Sep-2013 | MCE | 190 | SA | SHORT ANSWER Exams | WRITE SHORT ANSWERS |
| 500 | 12-Sep-2013 | MCE | 190 | FIB | FILL IN THE BLANKS Exams | TYPE IN THE CORRECT ANSWER |
| 510 | 15-Sep-2013 | SA | 191 | MCE | Multiple Choice Exams | CHOOSE MORE THAN ONE ANSWER |
| 510 | 15-Sep-2013 | SA | 191 | TF | TRUE AND FALSE Exams | CHOOSE EITHER TRUE OR FALSE |
| 510 | 15-Sep-2013 | SA | 191 | ESS | ESSAY Exams | WRITE PARAGRAPHS |
| 510 | 15-Sep-2013 | SA | 191 | SA | SHORT ANSWER Exams | WRITE SHORT ANSWERS |
| 510 | 15-Sep-2013 | SA | 191 | FIB | FILL IN THE BLANKS Exams | TYPE IN THE CORRECT ANSWER |
| 520 | 18-Sep-2013 | FIB | 192 | MCE | Multiple Choice Exams | CHOOSE MORE THAN ONE ANSWER |
| 520 | 18-Sep-2013 | FIB | 192 | TF | TRUE AND FALSE Exams | CHOOSE EITHER TRUE OR FALSE |
| 520 | 18-Sep-2013 | FIB | 192 | ESS | ESSAY Exams | WRITE PARAGRAPHS |
| 520 | 18-Sep-2013 | FIB | 192 | SA | SHORT ANSWER Exams | WRITE SHORT ANSWERS |
| 520 | 18-Sep-2013 | FIB | 192 | FIB | FILL IN THE BLANKS Exams | TYPE IN THE CORRECT ANSWER |
| 530 | 21-Mar-2014 | ESS | 193 | MCE | Multiple Choice Exams | CHOOSE MORE THAN ONE ANSWER |
| 530 | 21-Mar-2014 | ESS | 193 | TF | TRUE AND FALSE Exams | CHOOSE EITHER TRUE OR FALSE |
| 530 | 21-Mar-2014 | ESS | 193 | ESS | ESSAY Exams | WRITE PARAGRAPHS |
| 530 | 21-Mar-2014 | ESS | 193 | SA | SHORT ANSWER Exams | WRITE SHORT ANSWERS |
| 530 | 21-Mar-2014 | ESS | 193 | FIB | FILL IN THE BLANKS Exams | TYPE IN THE CORRECT ANSWER |