ICT Curriculum Elective Module A - Teaching database concepts using MySQL Environment
高中資訊及通訊科技修訂課程選修單元A - 使用MySQL 教授數據庫工作坊

Date : 23 Feb 2024 (Friday)
Time : 2:30 p.m. – 5:15 p.m.
Venue : City University of Hong Kong
LI4109

Ng Tsz Kit
Hong Kong Chinese Women's Club College

Programme Rundown 程序

Time 時間	Talk / Arrangement 講題 / 安排	Speaker 講者
2:30pm - 2:45pm	Registration 登記	
2:45pm - 3:00 pm	Inrtoduction 簡介	Curriculum Development Officer (Technology Education), EDB 教育局 課程發展主任(科技教育) Mr NG Tsz Kit, ICT Panel Head, Hong Kong Chinese Women's Club College 香港中國婦女會中學, 電腦科科主任, 吳子傑先生
3:00 pm - 4:30 pm	〈Keynote Speech〉 MySQL Basic 〈專題演講〉 MySQL 基礎工作坊	Mr. Ivan Ma Principal Sales Consultant & MySQL User Group Lead at Oracle Oracle 首席技術顧問馬楚成先生
4:30 pm - 4:40 pm	Break 小休	
4:40 pm - 5:15 pm	〈Teacher Workshop〉 SQL: From theory to practical 〈教師工作坊〉 SQL： 從理論到實踐	Mr. WEN Hua Yan, ICT Panel Head, Christian Alliance Cheng Wing Gee College 香港九龍塘基督教中華宣道會鄭榮之中學 , 電腦科科主任, 溫華恩先生

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HKOI Classics 83 | UVa Problems 40 | Google Code Jam 1

SELECT: Library collection ☆

» Close

Q201 | Column Names: Must Match | Column Order: Any | Row Order: Any

You are working as a librarian in the school library. The teacher-in-charge asks you to gather some information about the collection in the library.

Write 3 SQL statements:

1. Retrieve all the information in the `book` table, including all records and columns.
2. Retrieve the title of all books. Do not include other information.
3. Retrieve the genre, title and number of pages of all books.

DATABASE SCHEMA

Show SQL statements

Table book

Field name	Type	Description
isbn	Integer	ISBN-13 identifier of the book
title	Character	Title
author	Character	Author
genre	Character	Genre
num_pages	Integer	Number of pages

Primary Key: isbn

DATABASE SCHEMA

Show SQL statements

```
CREATE TABLE `book` (
  `isbn`          INTEGER  NOT NULL,  -- ISBN-13 identifier of the book
  `title`         TEXT     NOT NULL,  -- Title
  `author`        TEXT     NOT NULL,  -- Author
  `genre`         TEXT     NOT NULL,  -- Genre
  `num_pages`     INTEGER  NOT NULL,  -- Number of pages
  PRIMARY KEY (`isbn`)
) STRICT;
```

SAMPLE - DATA

Show SQL statements

Table book

isbn	title	author	genre	num_pages
9781118823774	C++ For Dummies 7th Edition	Stephen R. Davis	Technology	480
9781974715466	SPY x FAMILY Volume 1	Tatsuya Endo	Manga	220
9780345535528	A Game of Thrones 5-Book Boxed Set	George R. R. Martin	Fiction	5216
9780201896831	The Art of Computer Programming Volume 1	Donald Knuth	Technology	672
9780201896848	The Art of Computer Programming Volume 2	Donald Knuth	Technology	784

```
1 SELECT * From Book;
2 SELECT title From Book;
3 SELECT genre, title, num_pages From Book;
```

SQL

Submit Saved *Last saved 16:21:18*

mple data | Run | Query Result | OK (0.006s

T * From Book;

title	author	genre	num_pages
The Art of Computer Programming Volume 1	Donald Knuth	Technology	672
The Art of Computer Programming Volume 2	Donald Knuth	Technology	784
A Game of Thrones 5-Book Boxed Set	George R. R. Martin	Fiction	5216
C++ For Dummies 7th Edition	Stephen R. Davis	Technology	480
Fullmetal Alchemist Complete Box Set	Hiromu Arakawa	Manga	5248
SPY x FAMILY Volume 1	Tatsuya Endo	Manga	220
Demon Slayer Complete Box Set	Koyoharu Gotouge	Manga	4496

Statement #2 SELECT title From Book;

title
The Art of Computer Programming Volume 1
The Art of Computer Programming Volume 2
A Game of Thrones 5-Book Boxed Set
C++ For Dummies 7th Edition

‹ 1 2 3 4 5 6 7 ›

Date / Time	User	Task	Language	Result	Time
2024-02-22 16:28:08	ywgs209 - O Hoi Ying	Q201 - SELECT: Library collection	SQL	Accepted	0.004
2024-02-22 16:28:02	ywgs216 - Chau Ho Ching Ch...	Q201 - SELECT: Library collection	SQL	Accepted	0.004
2024-02-22 16:27:27	ywgs232 - So Yan Kay	Q201 - SELECT: Library collection	SQL	Accepted	0.003
2024-02-22 16:26:56	ywgs224 - Wong Ka Yan	Q201 - SELECT: Library collection	SQL	Accepted	0.004

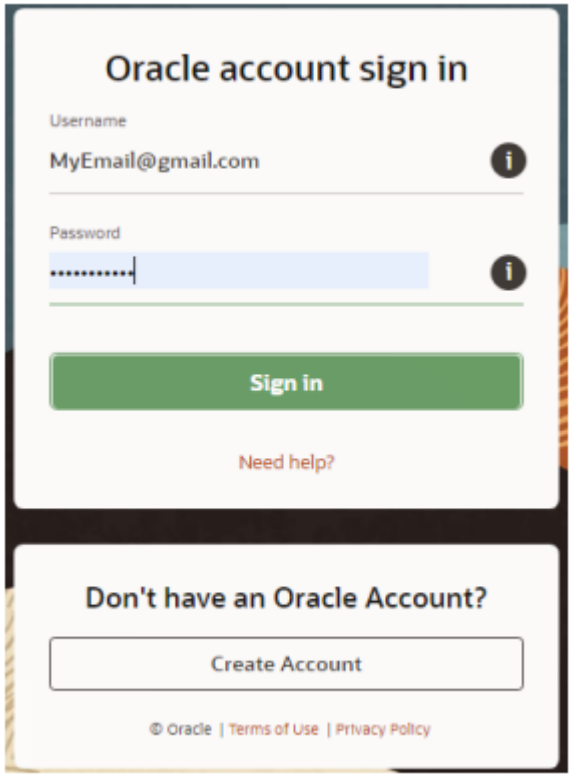
Leaderboard

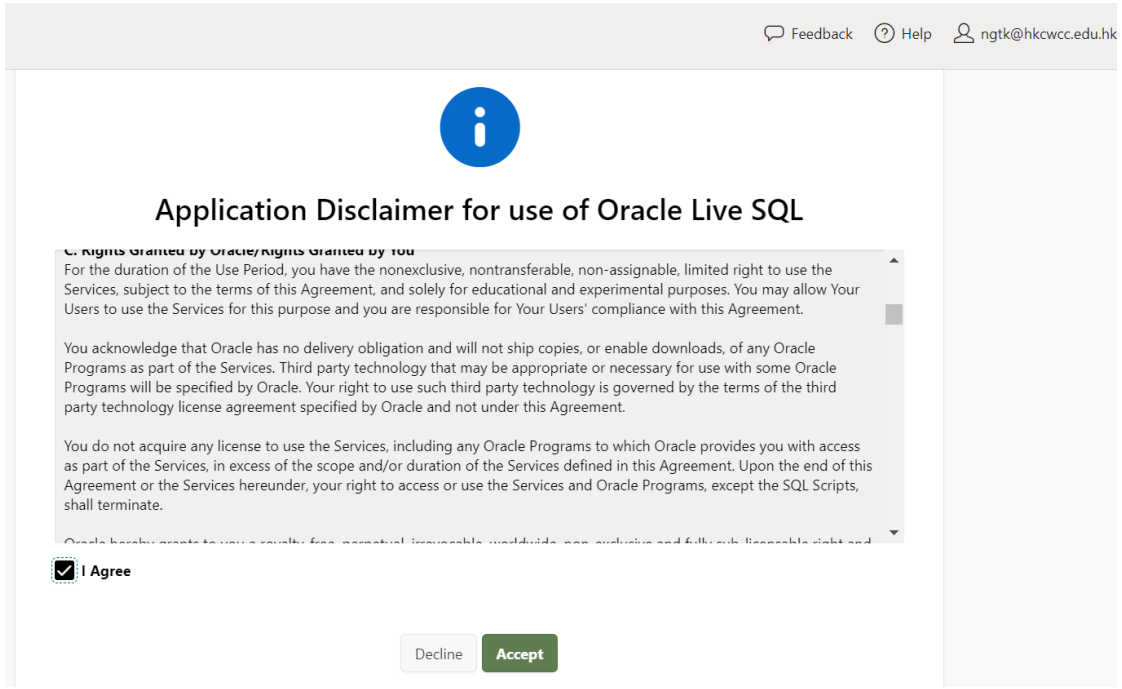
Leaderboard | All Users | School | Friends | Chart | School | Friends

Rank	User	School	Tasks Solved
1	WYK19X17 - trampled	Wah Yan College, Kowloon	980
2	ryanjz2024 - IG: @c8kbf LIKE MY POST	Chinese International School	925
3	dbsic - IB要>=43	Diocesan Boys' School	903
4	s20192 - sub-3 when	La Salle College	883
5	s19198 - 0 tasks per day	La Salle College	808
6	dbslomien - pb attendance when ?	Diocesan Boys' School	803
7	wy_gitlun - もう一回	Wah Yan College, Hong Kong	673
8	s19141 - ぼっち・ざ・リタード！	La Salle College	661

Oracle live sql

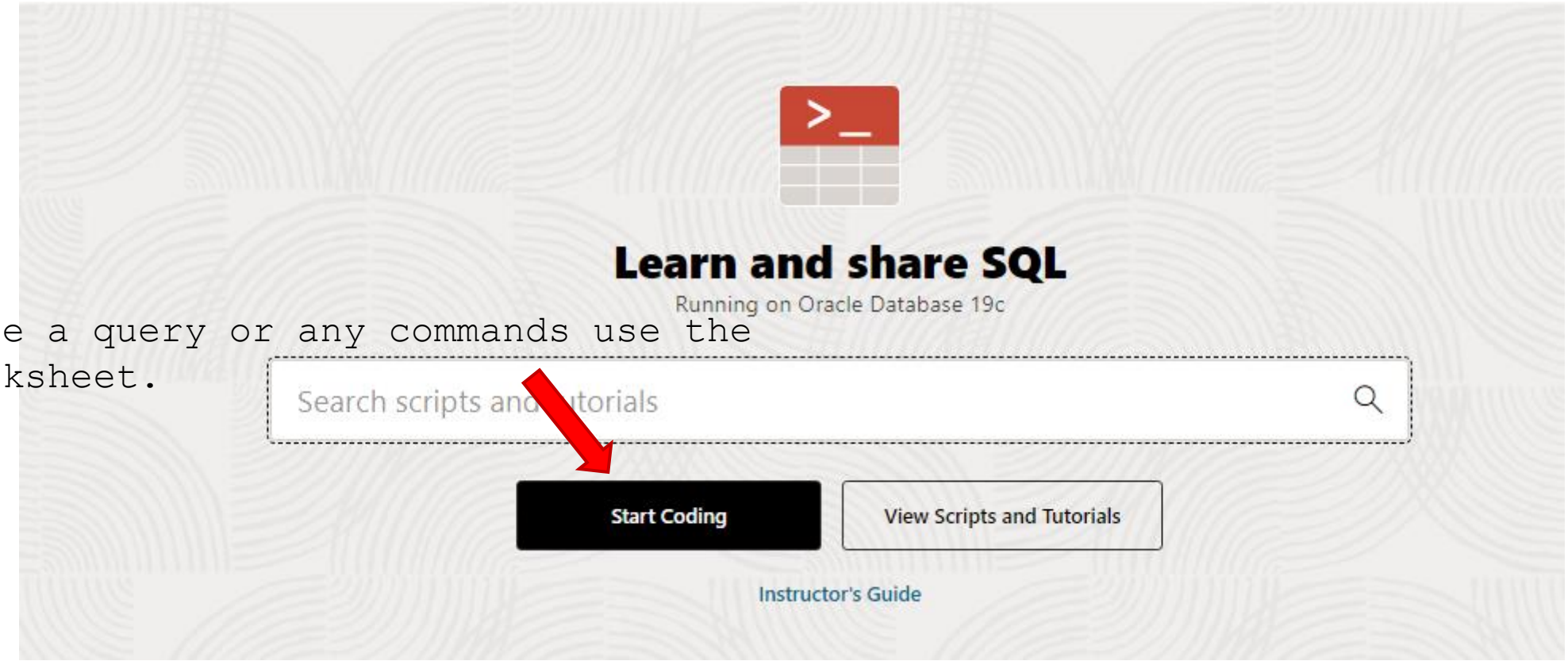
https://livesql.oracle.com/apex/f?p=590:1000



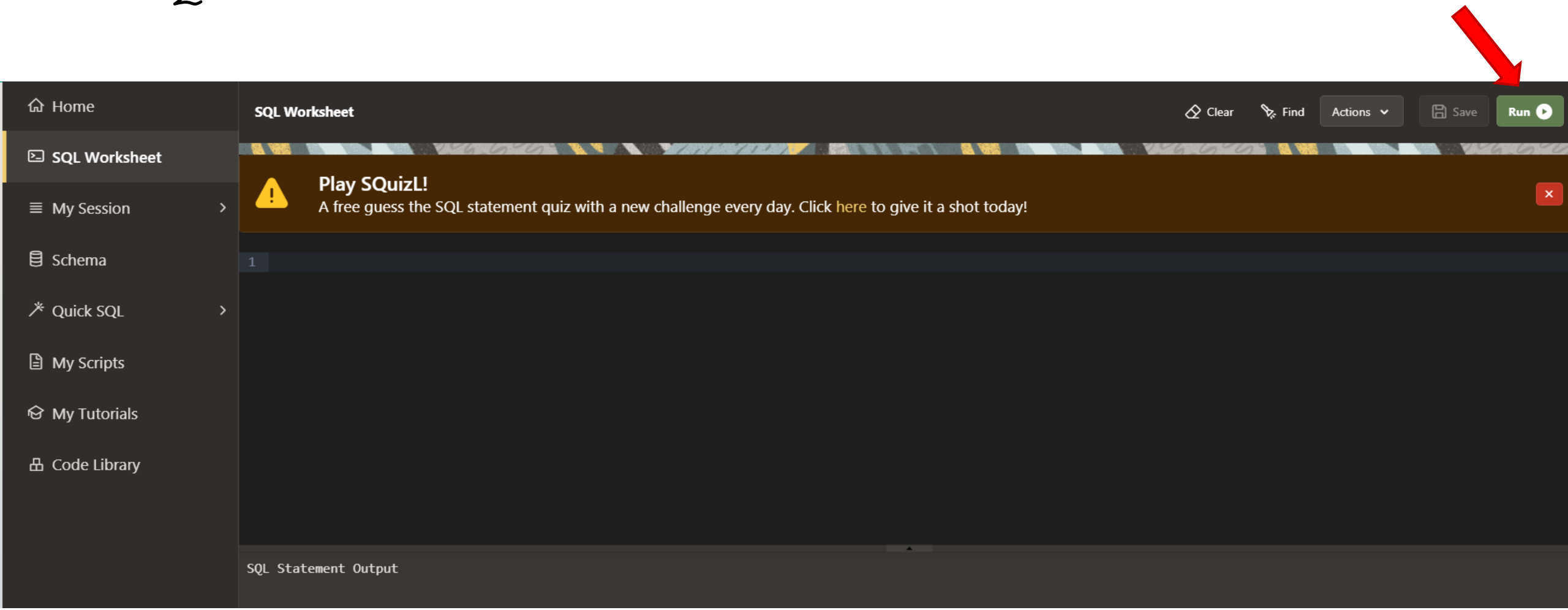


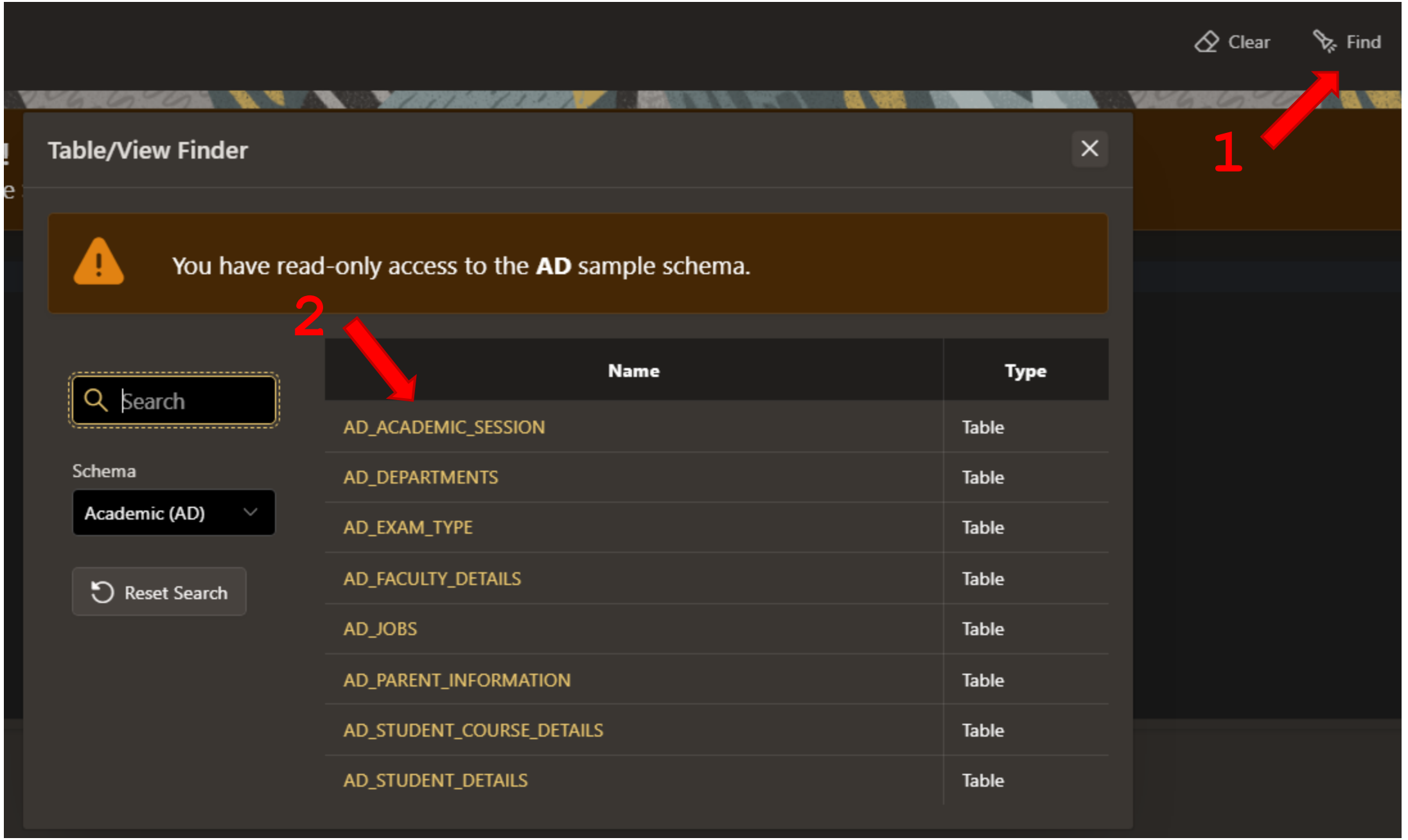
Before start working you should create an account for future use. When you create a user, you can save your scripts and share it with other users. To create a user, click sign in or create account. You can use your current account if you already have one.

To write a query or any commands use the SQL Worksheet.

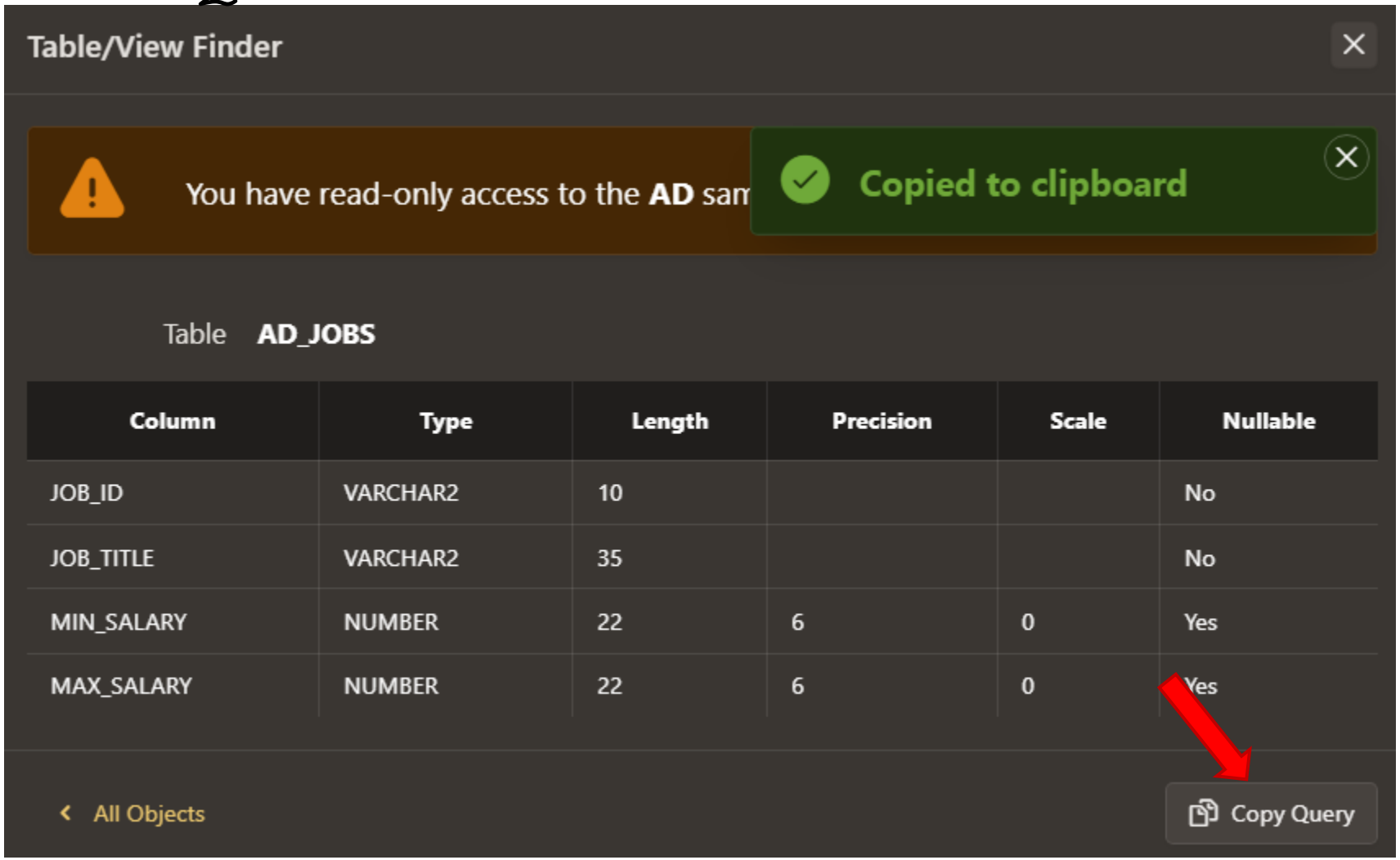


SQL Worksheet




Clear
Find
1
Table/View Finder
You have read-only access to the AD sample schema.
2
Search
Schema
Academic (AD)
Reset Search
Name
Type
AD_ACADEMIC_SESSION
Table
AD_DEPARTMENTS
Table
AD_EXAM_TYPE
Table
AD_FACULTY_DETAILS
Table
AD_JOBS
Table
AD_PARENT_INFORMATION
Table
AD_STUDENT_COURSE_DETAILS
Table
AD_STUDENT_DETAILS
Table

Use pre-defined scheme to run SQL.



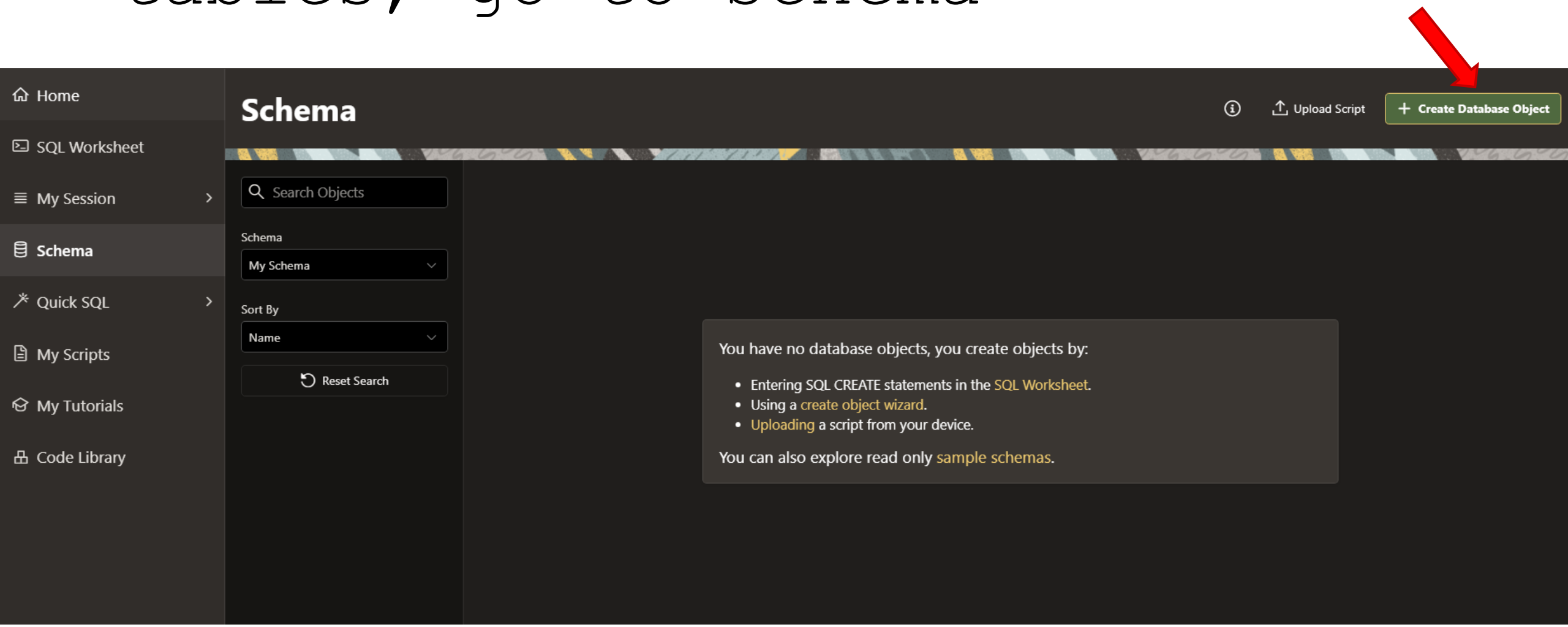

```
select
    "JOB_ID",
    "JOB_TITLE",
    "MIN_SALARY",
    "MAX_SALARY"
from
AD."AD_JOBS";
```

Copy to SQL worksheet, then run it!

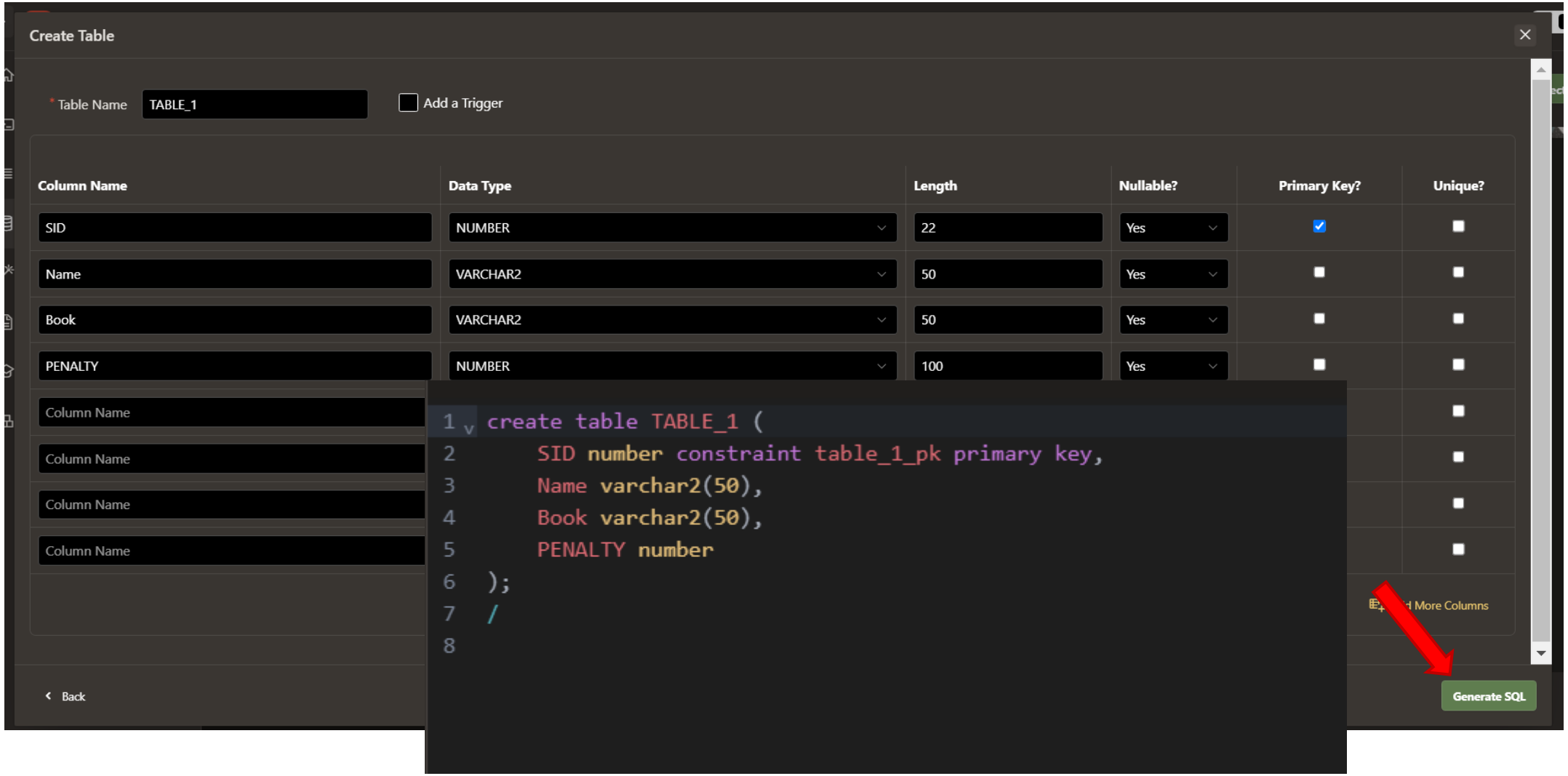
```sql
select
    "JOB_ID",
    "JOB_TITLE",
    "MIN_SALARY",
    "MAX_SALARY"
from AD."AD_JOBS";
```

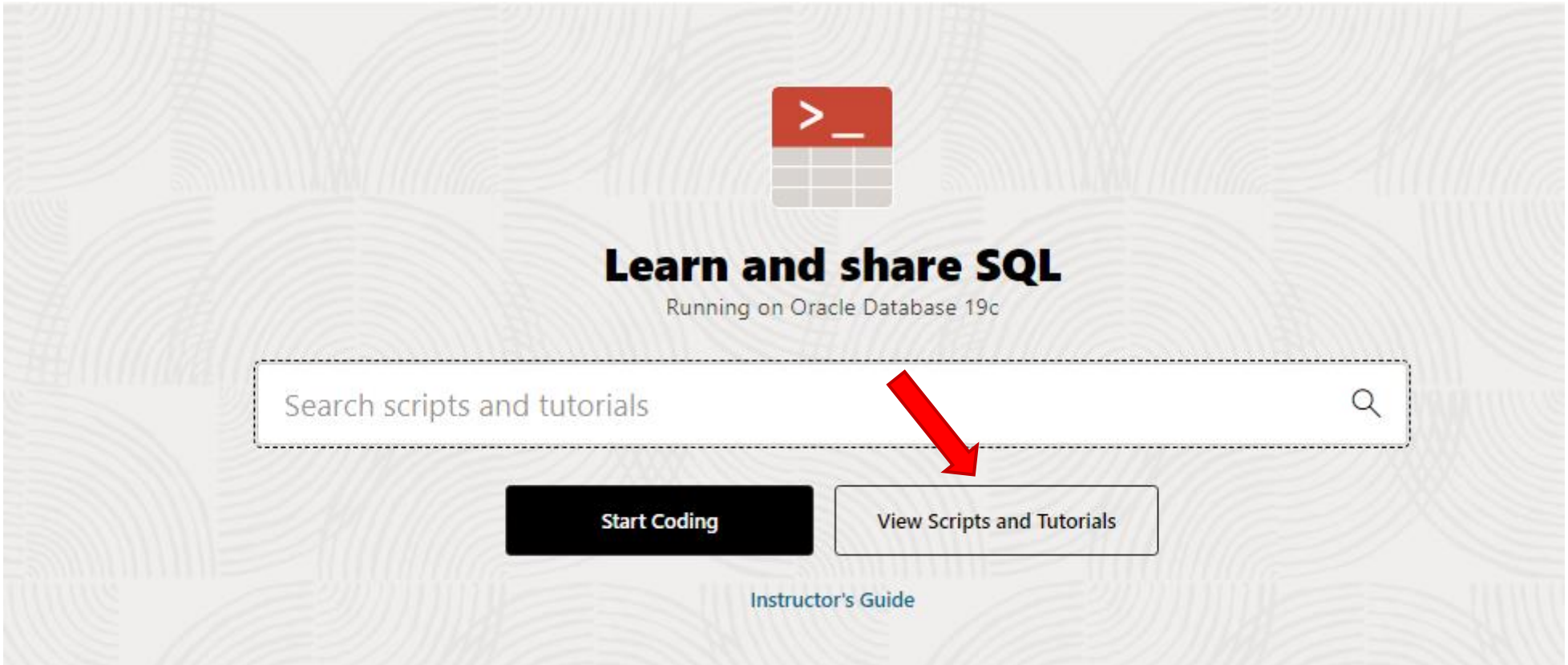
JOB_ID	JOB_TITLE	MIN_SALARY	MAX_SALARY
FA_ST	Staff Faculty	3000	6000
FA_SF	Senior Faculty	4200	9000
FA_AF	Associate Faculty	8200	16000

If you want to design your own tables, go to Schema



Creating table

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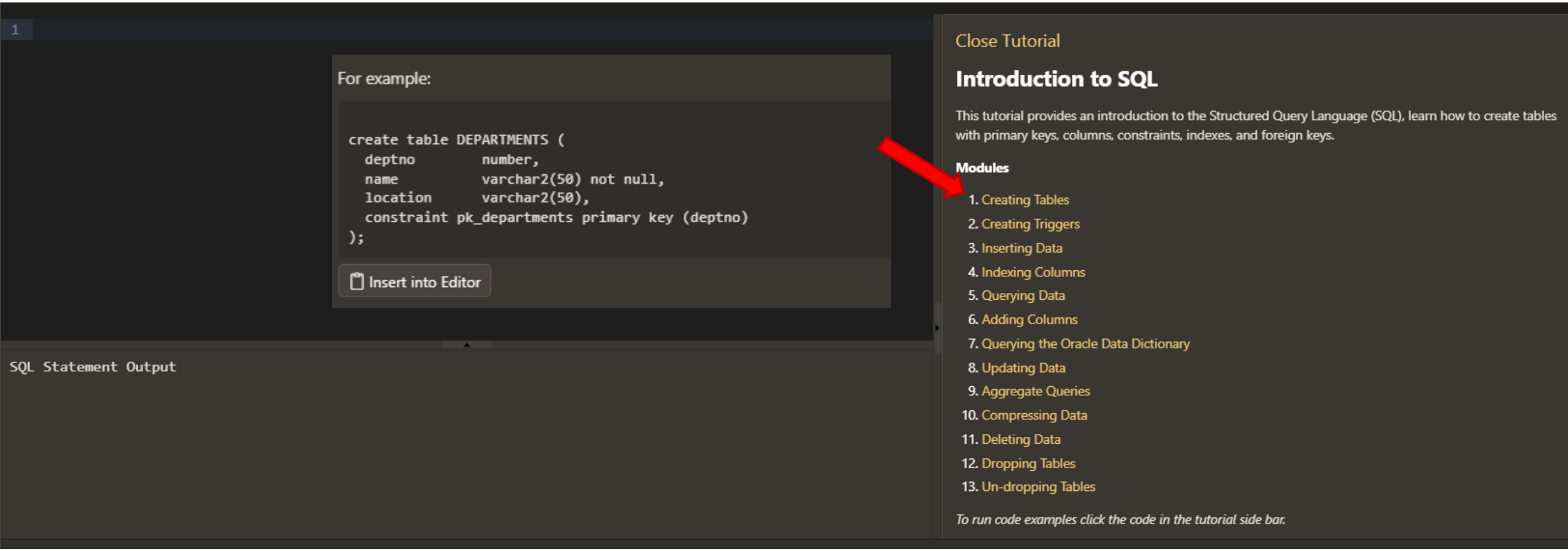
Introduction to SQL



Create a "child" table of the DEPARTMENTS table by including a foreign key in the EMPLOYEES table that references the DEPARTMENTS table

```
1
2  create table DEPARTMENTS (
3     deptno        number,
4     name          varchar2(50) not null,
5     location      varchar2(50),
6     constraint pk_departments primary key (deptno)
7  );
8
```

```
Table created.
```

```
1
2  create table EMPLOYEES (
3     empno              number,
4     name               varchar2(50) not null,
5     job                varchar2(50),
6     manager            number,
7     hiredate           date,
8     salary             number(7,2),
9     commission         number(7,2),
10    deptno            number,
11    constraint pk_employees primary key (empno),
12    constraint fk_employees_deptno foreign key (deptno)
13        references DEPARTMENTS (deptno)
14 );
15
```

```
Table created.
```

3. Inserting Data

Now that we have tables created, and we have triggers to automatically populate our primary keys, we can add data to our tables. Because we have a parent child relationship, with the DEPARTMENTS table as the parent table, and the EMPLOYEES table as the child we will first INSERT a row into the DEPARTMENTS table.

```
insert into departments (name, location) values
   ('Finance','New York');

insert into departments (name, location) values
   ('Development','San Jose');
```

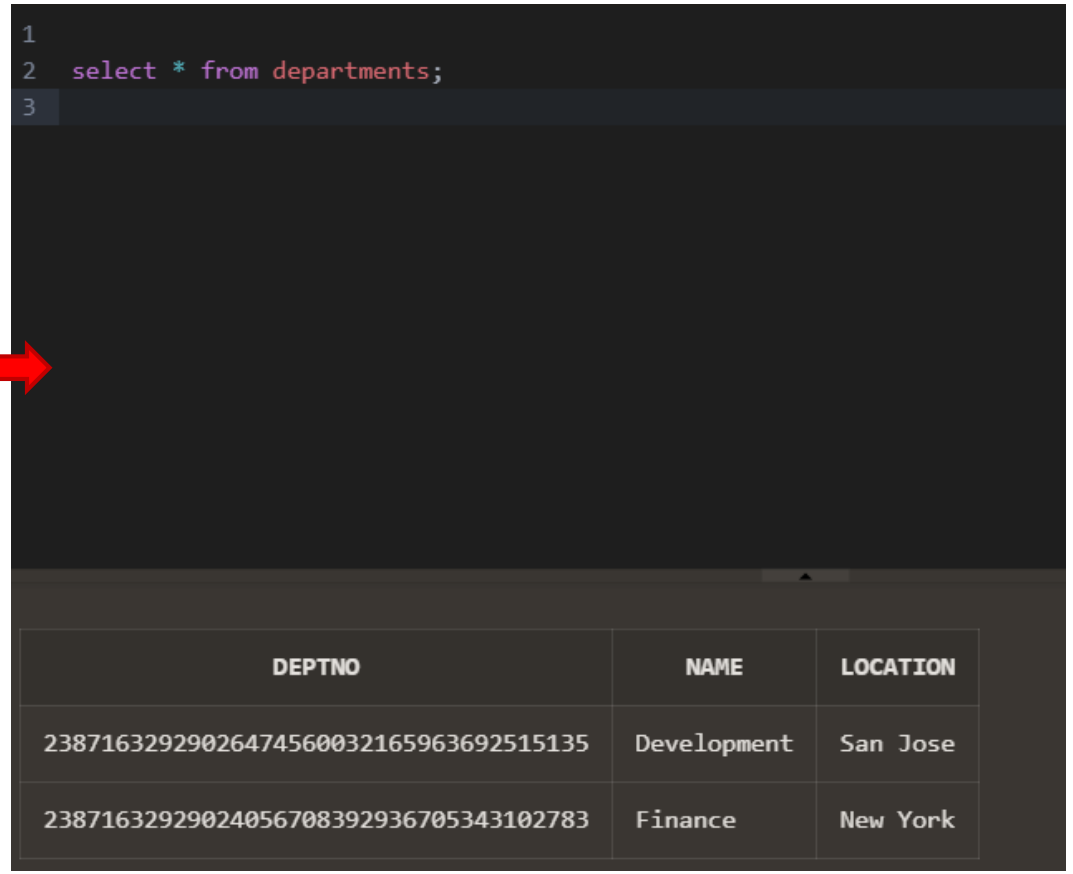
Insert into Editor

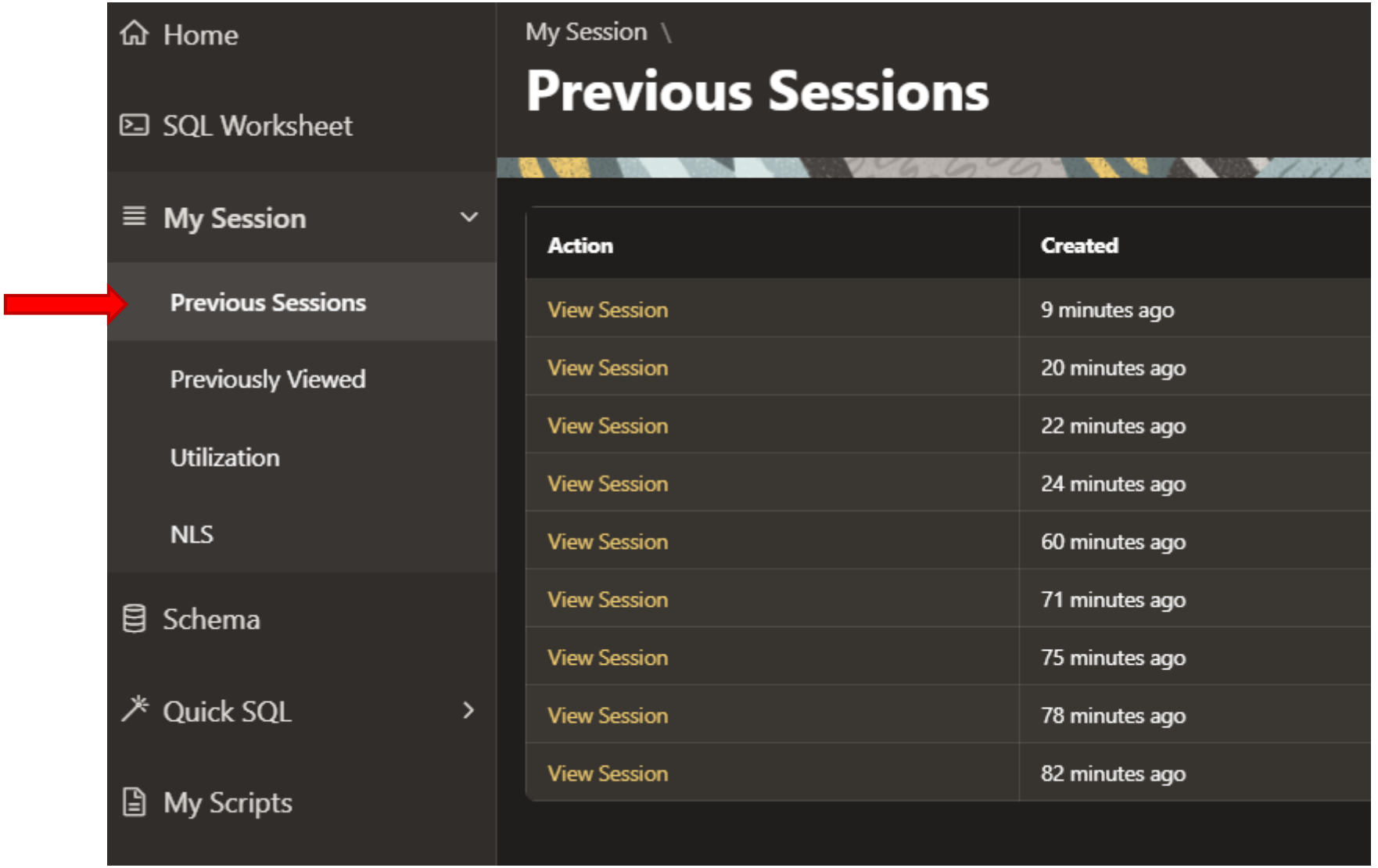
Lets verify that the insert was successful by running a SQL SELECT statement to query all columns and all rows of our table.

```
select * from departments;
```

Insert into Editor

You can see that an ID will have been automatically generated. You can now insert into the EMPLOYEES table a new row but you will need to put the generated DEPTID value into your SQL INSERT statement. The examples below show how we can do this using a SQL query, but you could simply enter the department number directly.

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My Session \
Previous Sessions
Action
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View Session
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View Session
78 minutes ago
View Session
82 minutes ago

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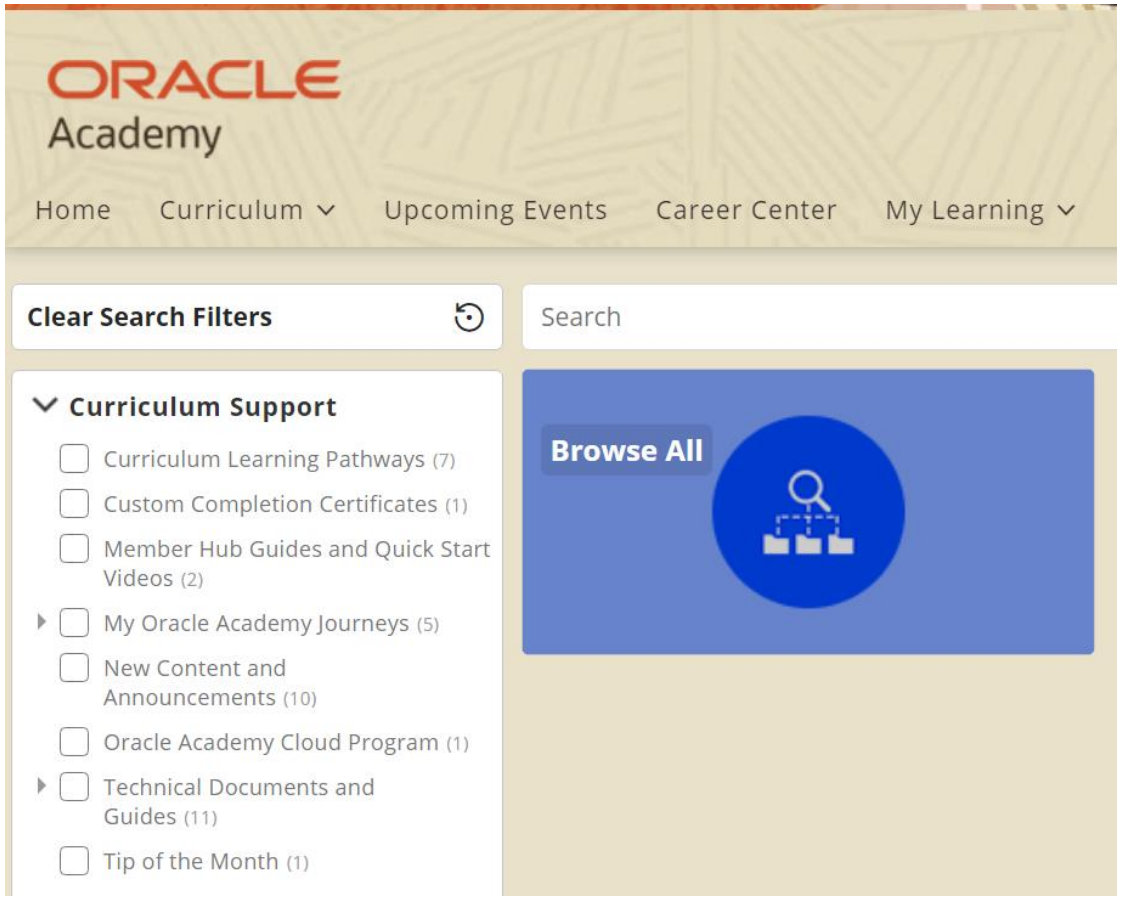

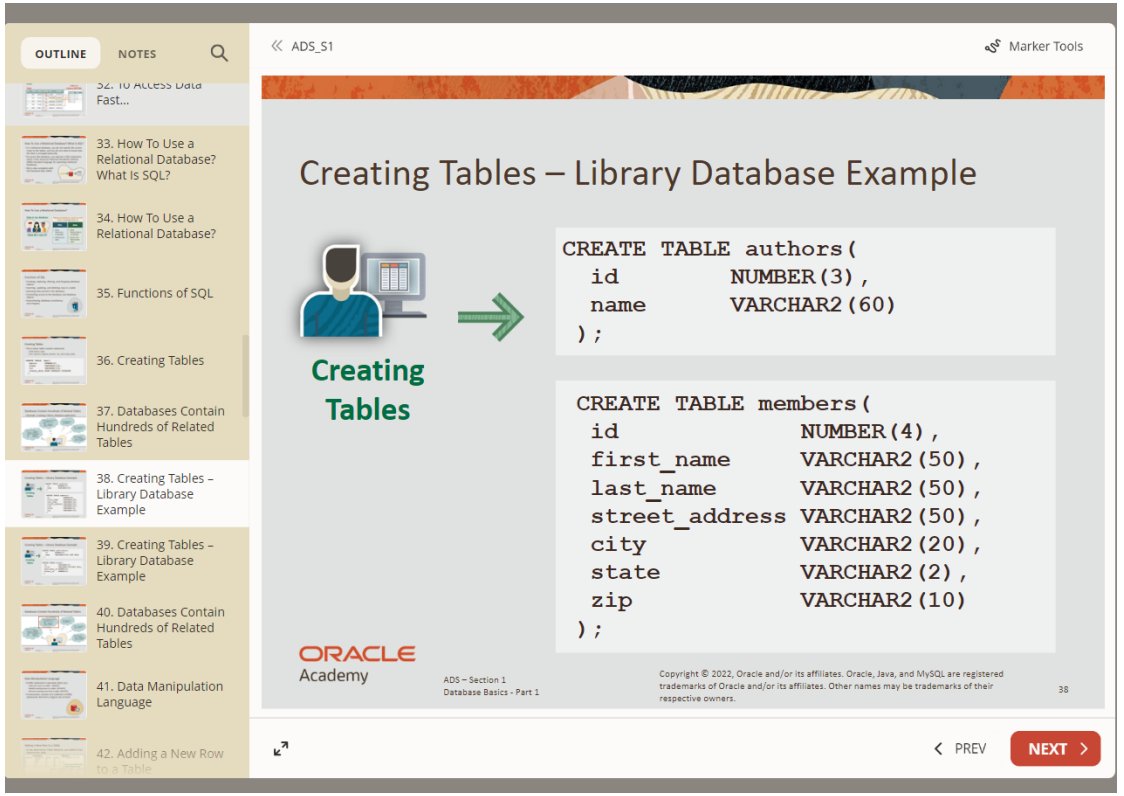

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