

# Interview Question Portal

Subject : Advanced Database Management System

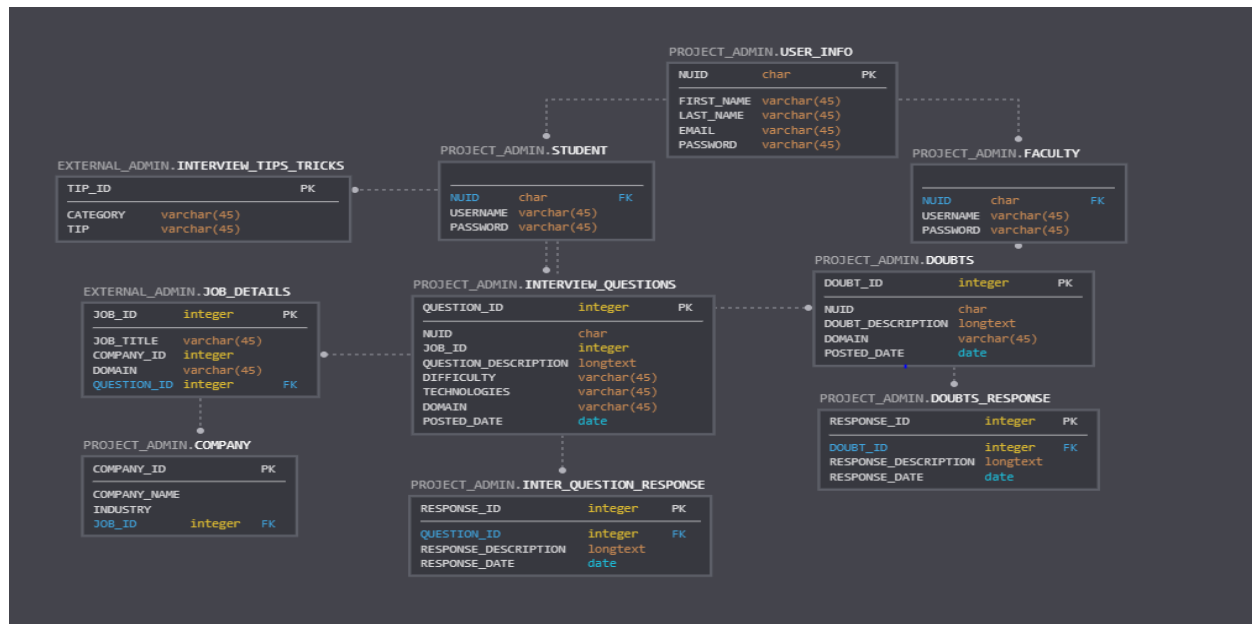
Name : Sanika Sambhaji Bhagat

## Purpose

All the students looking for a co-op need help to prepare during their interviews. They need some sample interview questions asked in the company, or maybe some sample questions about the position that they are interviewing to get an idea about how the interview will be. Also, some students may be having doubts while studying for their interviews which they might want to ask their professors. The interview Question portal is an application where the students and the faculty can register to so that they can help each other. The students can look at the interview questions posted by other students or even ask doubts to the professor which are registered on the portal.

- The interview question portal will help the students to get all the necessary help that they need for their interviews.
- This portal can be used by the students:
  1. To post some interview questions that are worthy to be shared with other students
  2. View some interview questions to prepare well for the interview
  3. Post doubts which can be answered by the subject faculty
  4. View some last minute interview tips and tricks

## ER Diagram



## Use Cases

- Post Interview Questions
- Post Doubts
- View Interview Questions
- View Interview Questions posted by user
- View Doubts posted by User
- View Responses to Interview Questions
- View Responses to Doubts
- Post Response to Interview Questions
- View Interview Tips and Tricks
- Post Responses to Doubts
- View Doubts

## Features Used

- **User input ('&')** - The user is asked for input in all the scripts so that the application works according to the user input. **Conditional functions and loops** have been used for the application to work based on the user input.

- **Pragma exceptions, pre-defined exceptions** – The exceptions are handled in every possible case where there was a chance of the exception being implemented. Check constraints exception, foreign key exceptions, no\_data\_found exception, value\_error exception are some of the exceptions to name a few
- **Triggers on log on schema, DML to populate log tables** - For any use cases where the data is being inserted into the table (Signup, post interview questions, post doubts, post response) or login, triggers have been implemented so that the information is stored in the log tables
- **Conditional statements** – Conditional statements and loops are used for writing a lot of cases so that the application works based totally on the user input.
- **Procedures and Functions** – Procedures and Functions were extensively used throughout the application for almost all the use cases such as View Interview Questions, View Interview Questions posted by user, View Doubts posted by User, View Responses to Interview Questions, View Responses to Doubts
- **Regexp** – Regexp is used to handle some cases such as email validation so that the user cannot enter anything as the email.
- **Collections (Varray, Record)** – Collections have been used where complex datatypes were needed such as while posting interview questions, the list of technologies were stored in a varray.
- **Cursors** – Cursors were used to fetch records depending upon the user input.
- **External Tables** – External tables were used to store some tables that were already populated but whose data was needed for some
- **Data Loading by SQL Loader** – Some
- **PDB and CDB** – PDB and CDB were created and the external tables and the tables loaded from SQL loader were stored in the PDBs.
- **Views** – Views were used to join get a view of joining multiple tables and then querying it
- **APEX Application** - Apart from the command line scripts, an APEX application has been implemented to show a working model of the Interview Questions Portal.
- **Creating users and granting privileges**

#### **Highlight:**

Apart from the command line scripts, an APEX application has been implemented to show a working model of the Interview Questions Portal.

The Screenshots are posted below:

App Builder x signup\_page x Home x ER\_model\_Pratt\_fnl.xml - draw.io x +

localhost:8080/apex/f?p=107:4:15228979869876::NO:::&success\_msg=QWN0aW9uIFByb2Nlc3NlZC4,%2FvB8UcdTri6qZei1PjcUJ6o3ZoxXqzBhahrsi0...

Sanika\_FP Log Out

Home

signup\_page

login\_user

signup\_page

NUID 001838252

First Name Pratyaksh

Last Name Gautam

Email gautam.p@neu.edu

Password Pratt77\$

BACK SIGNUP

release 1.0 Set Screen Reader Mode On

Home Application 107 Edit Page 4 Session View Debug Debug Show Layout Columns Quick Edit Theme Roller

f107.sql f113.sql ER\_model\_Pratt\_fnl.jpg ER\_model\_Pratt\_fnl.xml ER\_model\_Pratt.pdf Show all

Oracle SQL Developer : PROJECT\_ADMIN

File Edit View Navigate Run Source Team Tools Window Help

DBA Connections

Start Page Pratt\_PO\_Sandbox USER\_INFO internal\_admin TRUNC\_STAGE\_SMP\_DIS\_ST PROJECT\_ADMIN

0.031 seconds

Worksheet Query Builder

```
select * from user_info where NUID like '001838252';
```

Script Output Task completed in 0.031 seconds

| NUID      | FIRST_NAME | LAST_NAME | EMAIL            | PASSWORD  |
|-----------|------------|-----------|------------------|-----------|
| 001838252 | Pratyaksh  | Gautam    | gautam.p@neu.edu | Pratt77\$ |

Line 1 Column 52 Insert Modified Windows: CI

App Builder | signup\_page | Home | ER\_model\_Pratt\_fnl.xml - draw.io

localhost:8080/apex/f?p=107:4:15228979869876:NO:::&success\_msg=QWN0aW9uIFByb2NlcnZC4,%2FvBUCdTri6qZei1PjCU6o3ZoxXqzBhahsi0...

Sanika\_FP

Home | signup\_page | login\_user

signup\_page

NUID

First Name

Last Name

Email

Password

BACK SIGNUP

release 1.0 Set Screen Reader Mode On

Home Application 107 Edit Page 4 Session View Debug Debug Show Layout Columns Quick Edit Theme Roller

f107.sql f113.sql ER\_model\_Pratt\_fnl.jpg ER\_model\_Pratt\_fnl.xml ER\_model\_Pratt.pdf Show all

Oracle SQL Developer: Table C##PROJECT\_ADMIN.DOUBTS@PROJECT\_ADMIN

File Edit View Navigate Run Team Tools Window Help

DBA Connections

Start Page Pratt\_PO\_Sandbox DOUBTS internal\_admin TRUNC\_STAGE\_SMP\_DIS\_ST

Columns Data Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL

Actions...

| DOUBT_ID | NUID       | DOUBT_DESCRIPTION   | DOMAIN                |
|----------|------------|---|-----------------------|
| 1        | 4001889030 | How to select non na rows from a Dataset in R?  | DATA SCIENCE          |
| 2        | 5001889030 | What is a clustered/non clustered index?  | BUSINESS INTELLIGENCE |
| 3        | 61888728   | What is a JavaScript callback function?   | WEB DEVELOPMENT       |
| 4        | 71888735   | How to write a function that divides two numbers without using the divide / operator? | SOFTWARE ENGINEERING  |
| 5        | 8001889030 | How to use numpy effectively  | DATA SCIENCE          |

PROJECT\_ADMIN

- Tables (Filtered)
  - COMPANY
  - DOUBT\_POSTED\_LOG
  - DOUBT\_RESPONSE
  - DOUBTS
  - FACULTY\_SUBJECT\_EXPERTISE
  - INT\_QUES\_POSTED\_LOG
  - INT\_QUES\_RESPONSE
    - RESPONSE\_ID
    - INT\_QUES\_ID
    - RESPONSE\_DESCRIPTION
    - RESPONSE\_DATE
  - INTERVIEW\_QUESTIONS
    - QUESTION\_ID
    - NUID
    - JOB\_ID
    - QUESTION\_DESCRIPTION
    - DIFFICULTY\_LEVEL
    - TECHNOLOGIES
    - DOMAIN
    - POSTED\_DATE
  - JOB\_DETAILS
  - POSITION
  - STUDENT\_FACULTY
    - NUID
    - COOP\_ADVISOR
  - USER\_INFO
  - USER\_LOGIN\_LOG
  - USER\_SIGNUP\_LOG
- Views
- Editing Views
- Indexes
- Packages
- Procedures

App Builder x doubt\_post x Home x ER\_model\_Pratt\_fnl.xml - draw.io x +

localhost:8080/apex/f?p=107:16:15228979869876:NO:RP::

Sanika\_FP Log Out

Home

New

D\_NUID 001889030

DOUBT\_DESCRIPTION How to use numpy effectively

D\_DOMAIN DATA SCIENCE

BACK POST\_DOUBT

release 1.0 Set Screen Reader Mode On

Home Application 107 Edit Page 16 Session View Debug Debug Show Layout Columns Quick Edit Theme Roller

f107.sql f113.sql ER\_model\_Pratt\_fnl.jpg ER\_model\_Pratt\_fnl.xml ER\_model\_Pratt.pdf Show all

Oracle SQL Developer: Table C##PROJECT\_ADMIN.INTERVIEW\_QUESTIONS@PROJECT\_ADMIN

File Edit View Navigate Run Team Tools Window Help

DBA Connections

Start Page Pratt\_PO\_Sandbox INTERVIEW\_QUESTIONS internal\_admin TRUNC\_STAGE\_SMP\_DIS\_ST

Columns Data Constraints Grants Statistics Triggers Flashback Dependencies Details Partitions Indexes SQL

Sort: Filter: Actions...

|    | QUESTION_ID | NUID   | JOB_ID | QUESTION_DESCRIPTION  |
|----|-------------|--------|--------|---|
| 1  | 331888713   | 11468  |        | In jQuery, describe how the selector syntax works for the click function.                     |
| 2  | 301888715   | 10241  |        | What is the data structure in data warehouse?   |
| 3  | 311888713   | 10680  |        | What is logistic regression? What is Bayesian Heirarchical modeling?                          |
| 4  | 321888713   | 10346  |        | What is an abstract class and why would you use it?   |
| 5  | 341888713   | 117411 |        | 1. talk about the flow of working with react 2. schema design 3. RESTful api 4. algo question |
| 6  | 21001889030 | 11070  |        | What is conditional formatting in Tableau?  |
| 7  | 351888713   | 11341  |        | Difference between Swift and Objective C  |
| 8  | 361888728   | 11682  |        | MVC Architecture, Problems with MVC, MVVM architecture, UITableViews, UICollectionViews       |
| 9  | 371888728   | 10557  |        | Given a binary tree with the usual left and right pointers on each node, and additionally a   |
| 10 | 381888737   | 11712  |        | Write a program to translate alphanumeric phone number to numbers only                        |
| 11 | 40001889030 | 11070  |        | What is ETL?  |
| 12 | 41001888713 | 11468  |        | How to use AJAX?  |
| 13 | 39001889030 | 11070  |        | What is Predictive Analysis?  |

PROJECT\_ADMIN

- Tables (Filtered)
  - COMPANY
  - DOUBT\_POSTED\_LOG
  - DOUBT\_RESPONSE
  - DOUBTS
  - FACULTY\_SUBJECT\_EXPERTISE
  - INT\_QUES\_POSTED\_LOG
  - INT\_QUES\_RESPONSE
    - RESPONSE\_ID
    - INT\_QUES\_ID
    - RESPONSE\_DESCRIPTION
    - RESPONSE\_DATE
  - INTERVIEW\_QUESTIONS
    - QUESTION\_ID
    - NUID
    - JOB\_ID
    - QUESTION\_DESCRIPTION
    - DIFFICULTY\_LEVEL
    - TECHNOLOGIES
    - DOMAIN
    - POSTED\_DATE
  - JOB\_DETAILS
  - POSITION
  - STUDENT\_FACULTY
    - NUID
    - COOP\_ADVISOR
  - USER\_INFO
  - USER\_LOGIN\_LOG
  - USER\_SIGNUP\_LOG
- Views
- Editing Views
- Indexes
- Packages
- Procedures

App Builder x post\_int\_ques x Home x ER\_model\_Pratt\_fnl.xml - draw.io x +

localhost:8080/apex/f?p=107:10:15228979869876::NO:RP::

Sanika\_FP Log Out

Home

### Post Interview Question

NUID

JOB\_ID

QUESTION\_DESCRIPTION

DIFFICULTY\_LEVEL

DOMAIN

TECHNOLOGY\_1

TECHNOLOGY\_2

release 1.0 Set Screen Reader Mode On

Home Application 107 Edit Page 10 Session View Debug Debug Show Layout Columns Quick Edit Theme Roller

f107.sql f113.sql ER\_model\_Pratt\_fnl.jpg ER\_model\_Pratt\_fnl.xml ER\_model\_Pratt.pdf Show all x

App Builder x login\_user x Home x ER\_model\_Pratt\_fnl.xml - draw.io x +

localhost:8080/apex/f?p=107:6:15228979869876::NO:RP::

Sanika\_FP Log Out

Home

signup\_page

login\_user

### New

USERNAME

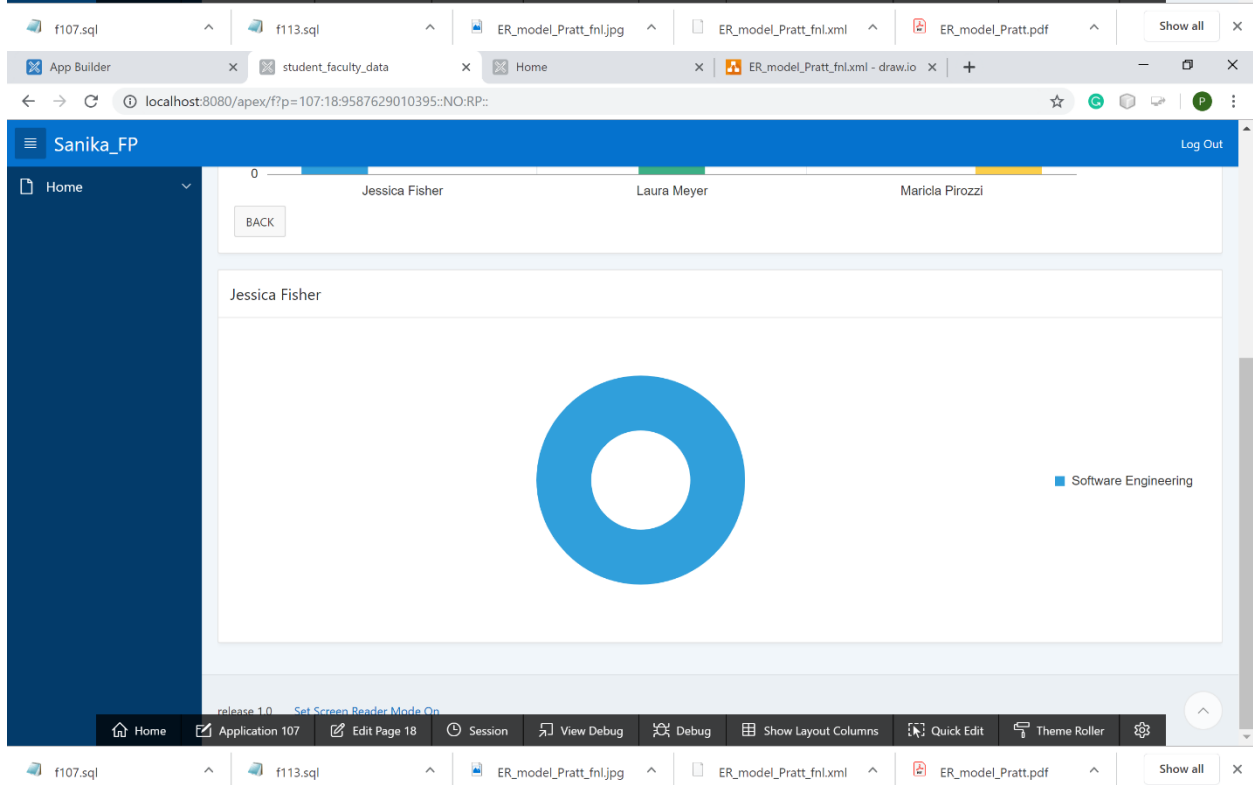
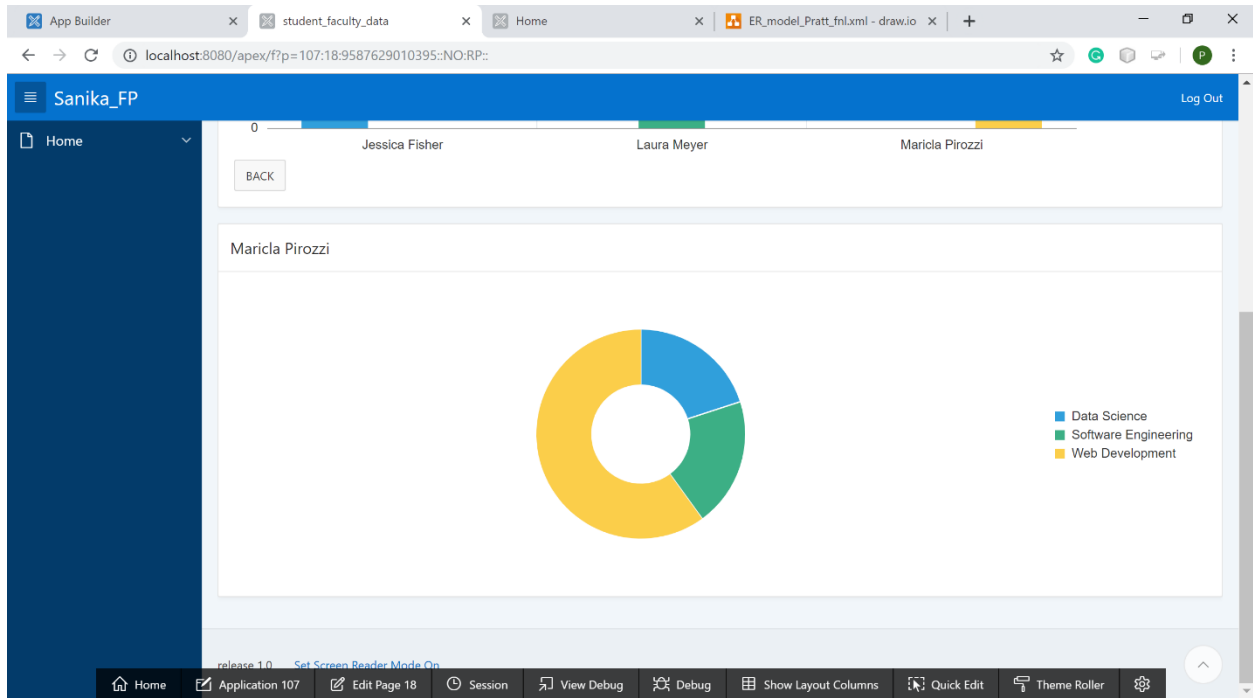
PASSWORD

### Student

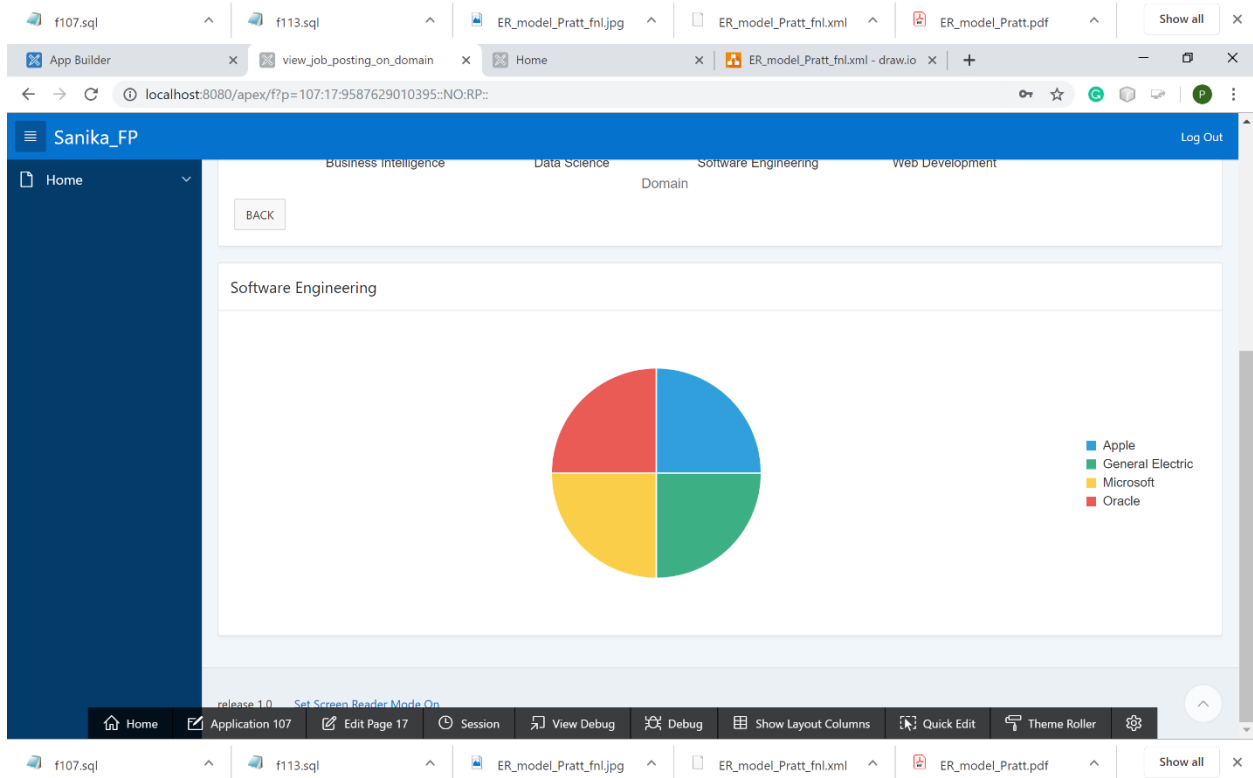
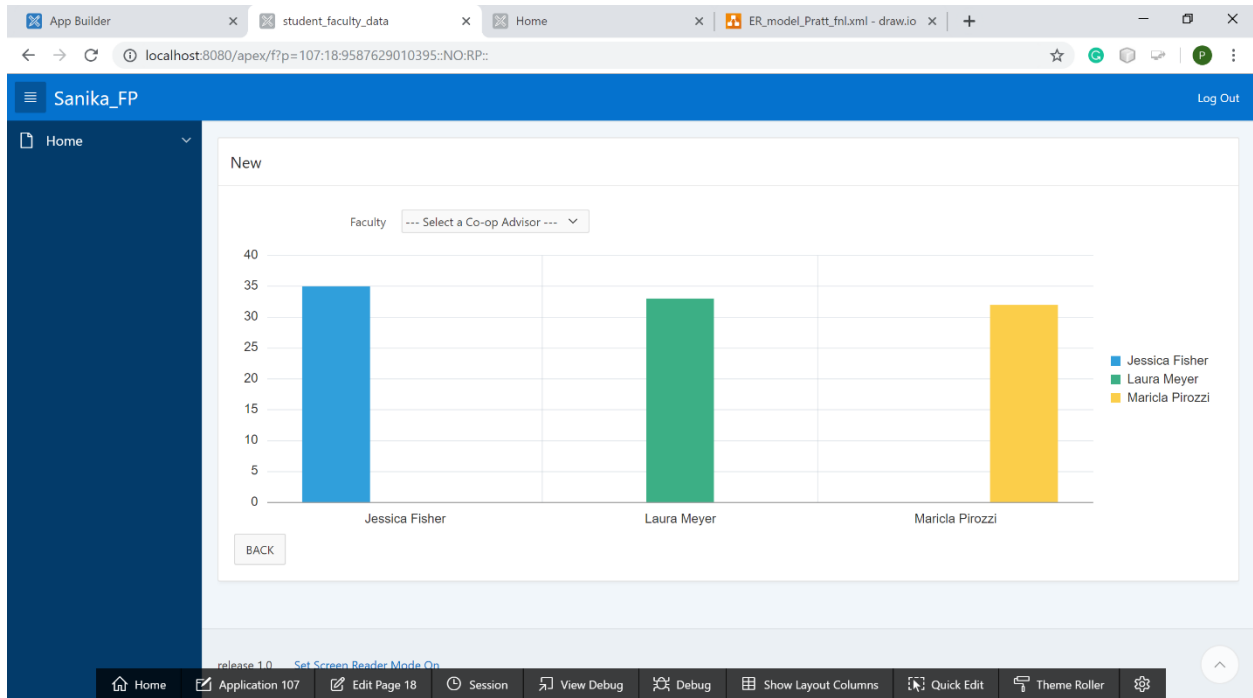
release 1.0 Set Screen Reader Mode On

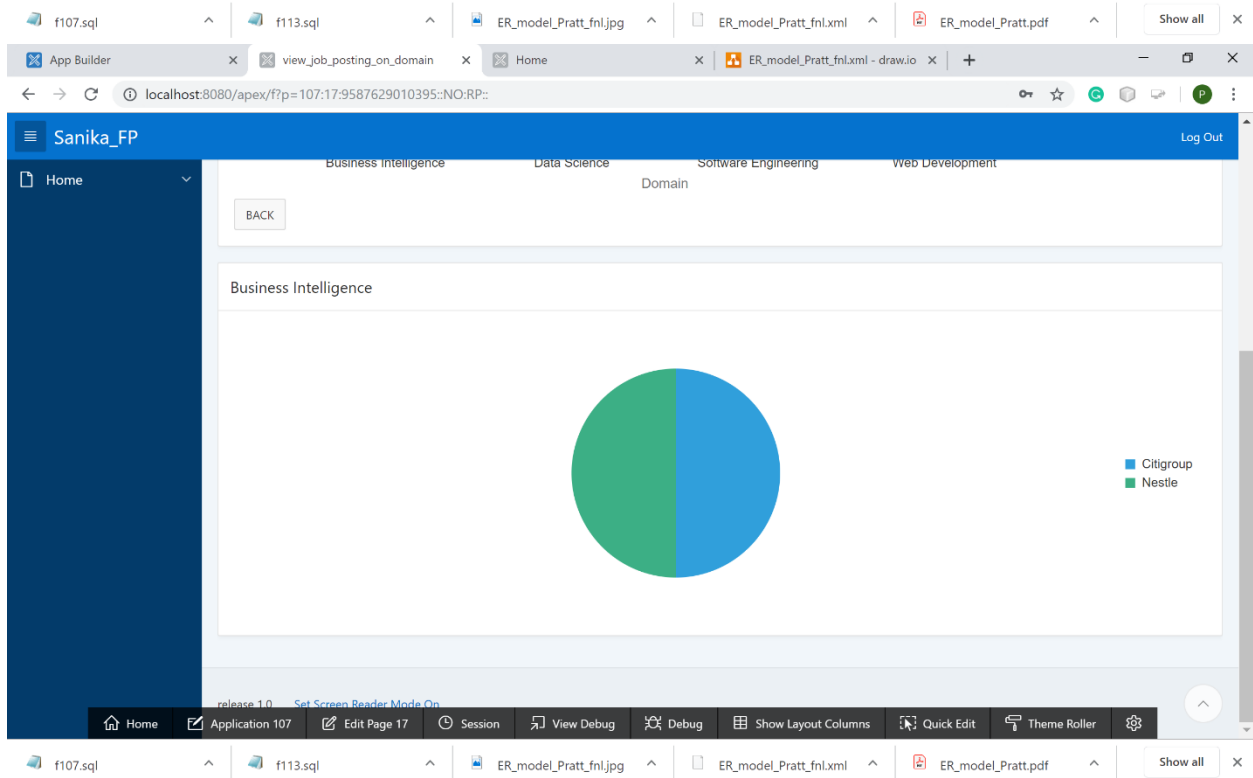
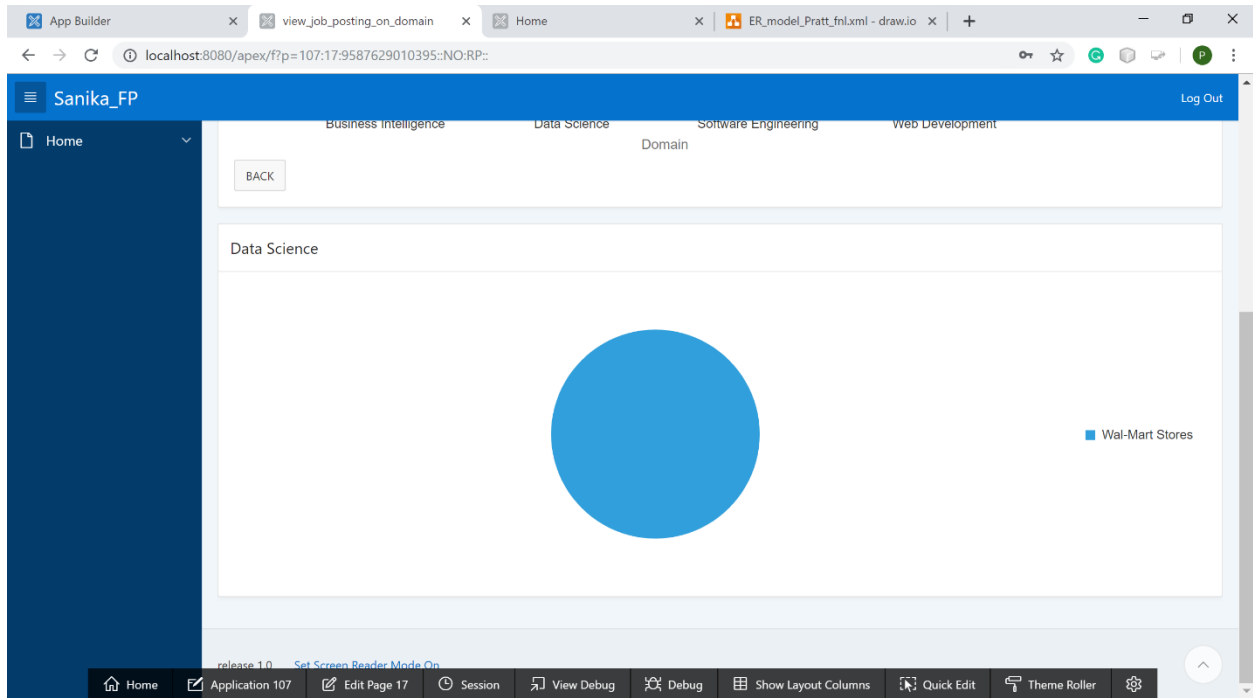
Home Application 107 Edit Page 6 Session View Debug Debug Show Layout Columns Quick Edit Theme Roller

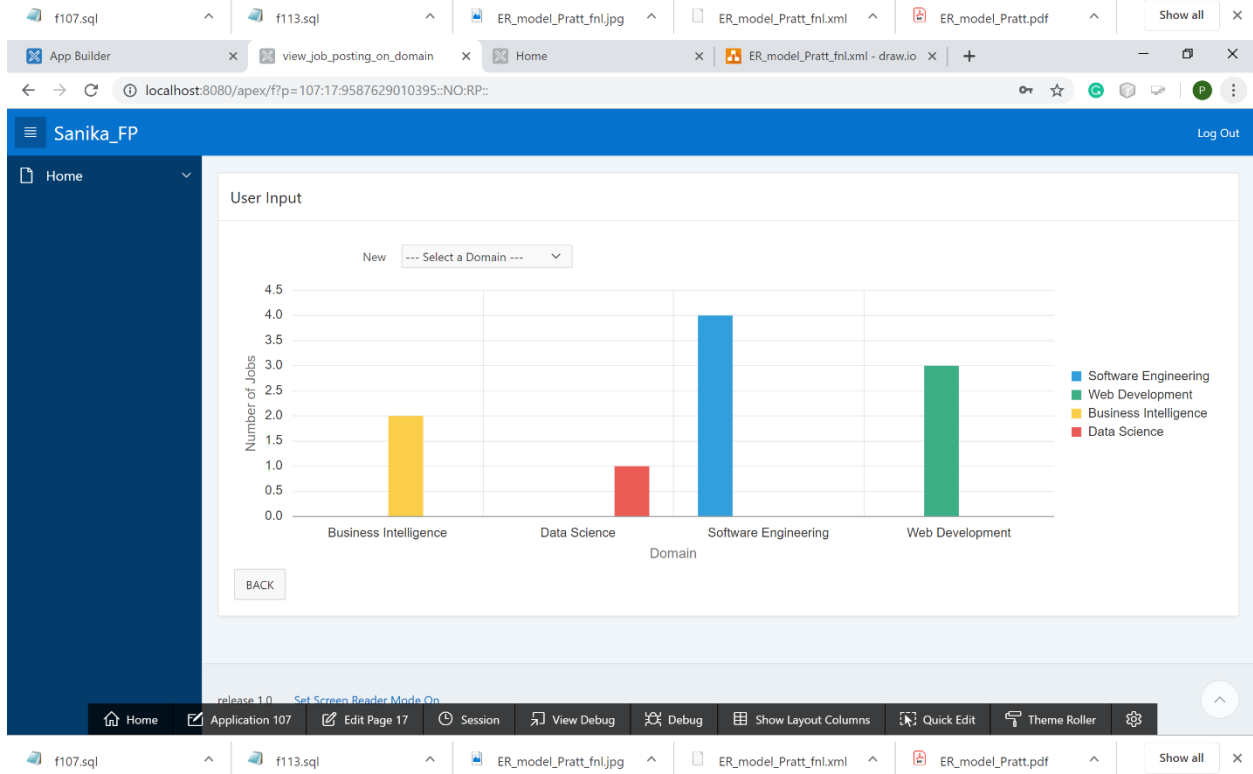
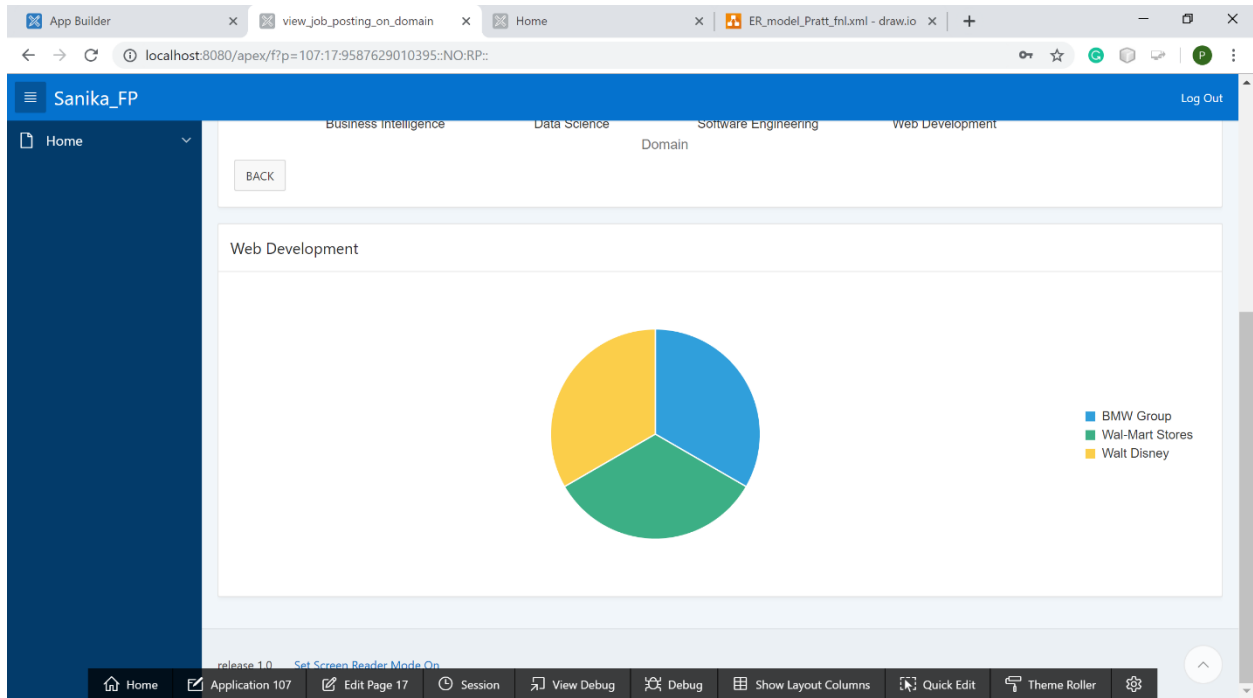
f107.sql f113.sql ER\_model\_Pratt\_fnl.jpg ER\_model\_Pratt\_fnl.xml ER\_model\_Pratt.pdf Show all x











App Builder login\_user Home ER\_model\_Pratt\_fnl.xml - draw.io

localhost:8080/apex/f?p=107:6:9587629010395::NO:RP::

Sanika\_FP Log Out

Home

signup\_page

login\_user

New

USERNAME san@northeastern.edu

PASSWORD ...

BACK SUBMIT

Faculty

VIEW\_JOB\_POSTING\_PER\_DOMAIN STUDENT\_FACULTY\_COUNT

release 1.0 Set Screen Reader Mode On

Home Application 107 Edit Page 6 Session View Debug Debug Show Layout Columns Quick Edit Theme Roller

f107.sql f113.sql ER\_model\_Pratt\_fnl.jpg ER\_model\_Pratt\_fnl.xml ER\_model\_Pratt.pdf Show all

App Builder login\_user Home ER\_model\_Pratt\_fnl.xml - draw.io

localhost:8080/apex/f?p=107:6:9587629010395::NO:RP::

Sanika\_FP Log Out

Home

signup\_page

login\_user

New

USERNAME

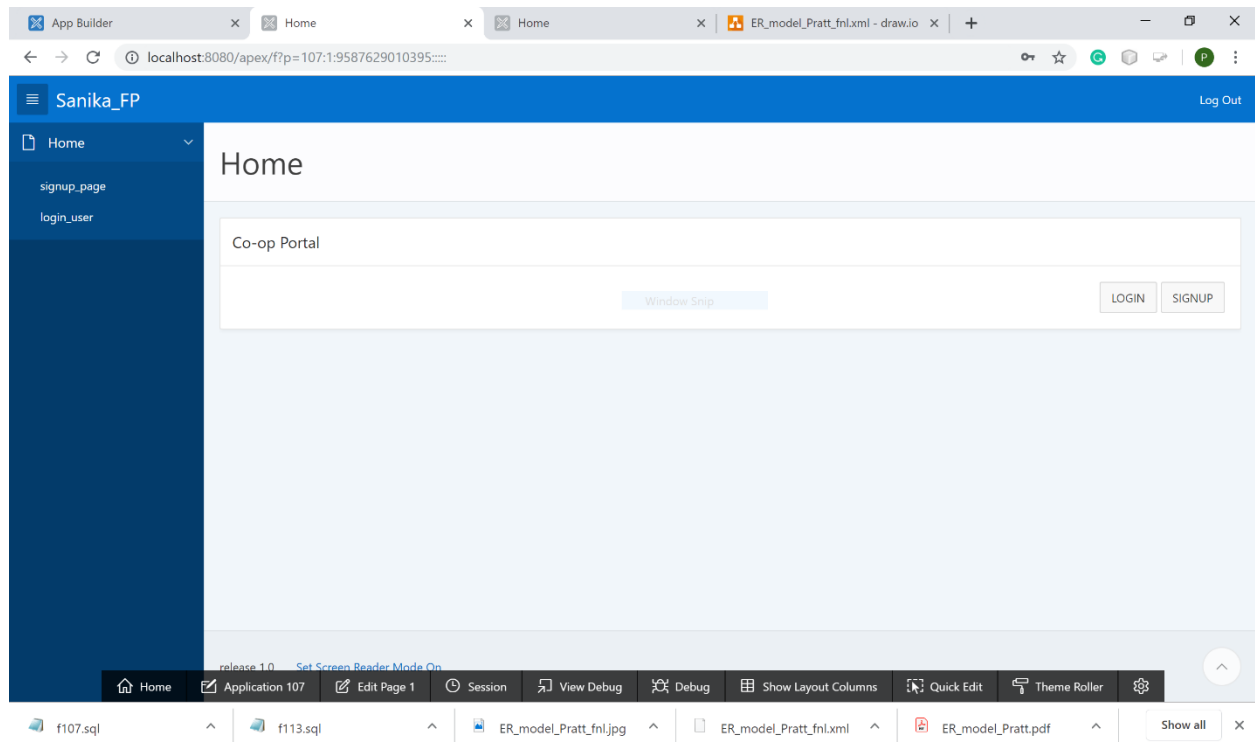
PASSWORD

BACK SUBMIT

release 1.0 Set Screen Reader Mode On

Home Application 107 Edit Page 6 Session View Debug Debug Show Layout Columns Quick Edit Theme Roller

f107.sql f113.sql ER\_model\_Pratt\_fnl.jpg ER\_model\_Pratt\_fnl.xml ER\_model\_Pratt.pdf Show all



```
'Welcome! Do you want to:'  
(L)ogin, or ($)ignUp: L  
  
Go to login.sql Script  
  
PL/SQL procedure successfully completed.  
  
SQL> @?/Scripts/login.sql  
  
'Enter Email ID'  
san@northeastern.edu  
'Enter Password'  
qwe  
  
Welcome sanika bhagat  
Go to faculty.sql Script  
  
PL/SQL procedure successfully completed.
```

```

SQL> @?/Scripts/student.sql

'Do you want to:'
(P)ost (U)iew Int Ques, (R)esp to Ques, (A)sk Doubt, (I)nt Ques by you, (T)ipsA

Go to post_doubt.sql Script

PL/SQL procedure successfully completed.

SQL> @?/Scripts/student.sql

'Do you want to:'
(P)ost (U)iew Int Ques, (R)esp to Ques, (A)sk Doubt, (I)nt Ques by you, (T)ipsI

Go to your_interview_questions.sql Script

PL/SQL procedure successfully completed.

SQL> @?/Scripts/call_proc_int_ques_by_user.sql
Enter value for i_nuid: 001889030

```

| QUESTION ID | JOB_ID | QUESTION DESCRIPTION                       | DIFFICULTY LEVEL | POSTED DATE |
|-------------|--------|--|------------------|-------------|
| 21          | 11070  | What is conditional formatting in Tableau? | Easy             | 24-APR-19   |

```

PL/SQL procedure successfully completed.

```

## APPENDIX:

### 1. Welcome.sql

set echo off

set serveroutput on

set verify off

set define '&'

prompt

prompt 'Welcome! Do you want to:'

accept tab prompt '(L)ogin, or (S)ignUp: '

prompt

declare

selection varchar2(1) := upper(substr('&tab',1,1));

begin

if selection = 'L' then

dbms\_output.put\_line('Go to login.sql Script');

-- Here the login.sql script should come

elsif selection = 'S' then

dbms\_output.put\_line('Go to signup.sql Script');

-- Here the script of signup.sql should come

else

dbms\_output.put\_line('Please enter valid options');

end if;

end;

/

2. Login.sql

set echo off

set serveroutput on

set verify off

set define '&'

prompt

prompt 'Enter Email ID'

accept email char

prompt 'Enter Password'

accept password char

prompt

DECLARE

user\_record USER\_INFO%rowtype;

row\_count number;

BEGIN

select \* into user\_record from USER\_INFO where EMAIL='&email' and PASSWORD='&password';

row\_count:=SQL%ROWCOUNT;

if (row\_count=1) then

dbms\_output.put\_line('Welcome '||user\_record.FIRST\_NAME||' '||user\_record.LAST\_NAME);

if(instr(user\_record.EMAIL,'northeastern.edu') > 0) then

dbms\_output.put\_line('Go to faculty.sql Script');

-- Here the script of faculty.sql should come

else

dbms\_output.put\_line('Go to student.sql Script');

-- Here the script of student.sql should come

end if;

else

dbms\_output.put\_line('No records found');

end if;

EXCEPTION

when NO\_DATA\_FOUND then

dbms\_output.put\_line('Please enter valid credentials');

END;

/



### 3. Signup.sql

set echo off

set serveroutput on

set verify off

set define '&'

prompt

prompt 'Enter NUID'

accept nuid char

prompt 'Enter First Name'

accept first\_name char

prompt 'Enter Last Name'

accept last\_name char

prompt 'Enter Email ID'

accept email char

prompt 'Enter Password'

accept password char

prompt 'Confirm Password'

accept confirm\_password char

prompt

DECLARE

user\_record USER\_INFO%rowtype;

var1 number;

BEGIN

if REGEXP\_LIKE ('&email','^[A-Za-z0-9.\_%+-]+@[A-Za-z0-9.-]+\.[A-Za-z]{2,4}\$') then

if (instr('&email','northeastern.edu') > 0 or instr('&email','neu.edu') > 0) then

if('&password'='&confirm\_password') then

```

INSERT into USER_INFO values ('&nuid','&first_name','&last_name','&email','&password');
var1 := SQL%ROWCOUNT;
if (var1 = 1) then

    commit;

    dbms_output.put_line('Number of Rows affected: ' || var1);
else
    rollback;
end if;
else
    dbms_output.put_line('The Passwords should match');
end if;
else
    dbms_output.put_line('The Email ID should be university Email ID');
end if;
else
    dbms_output.put_line('Please enter valid email');
end if;
END;

/

```

#### 4. Faculty.sql

```

set echo off
set serveroutput on
set verify off
set define '&'

```

```

prompt
prompt 'Do you want to:'
accept tab prompt '(D)oubts Posted for you, (P)ost Responses to Doubts'
prompt

declare

    selection varchar2(1) := upper(substr('&tab',1,1));

begin
    if selection = 'D' then
        dbms_output.put_line('Go to view_doubt.sql Script');
        -- Here the view_doubt.sql script should come
    elsif selection = 'P' then
        dbms_output.put_line('Go to call_func_doubt_response.sql Script');
        -- Here the script of call_func_doubt_response.sql should come
    else
        dbms_output.put_line('Please enter valid options');
    end if;
end;
/

```

## 5. Student.sql

```

set echo off
set serveroutput on
set verify off
set define '&'

```

prompt

prompt 'Do you want to:'

accept tab prompt '(P)ost (V)iew Int Ques, (R)esp Vi(E)w to Ques, (A)sk Doubt, (I)nt Ques by you, (T)ips'

prompt

declare

selection varchar2(1) := upper(substr('&tab',1,1));

begin

if selection = 'P' then

dbms\_output.put\_line('Go to post\_interview\_question.sql Script');

-- Here the post\_interview\_question.sql script should come

elsif selection = 'V' then

dbms\_output.put\_line('Go to view\_interview\_questions.sql Script');

-- Here the script of view\_interview\_questions.sql should come

elsif selection = 'R' then

dbms\_output.put\_line('Go to call\_proc\_int\_ques\_response.sql Script');

-- Here the question\_response.sql script should come

elsif selection = 'A' then

dbms\_output.put\_line('Go to post\_doubt.sql Script');

-- Here the script of post\_doubt.sql should come

elsif selection = 'I' then

dbms\_output.put\_line('Go to call\_proc\_int\_ques\_by\_user.sql Script');

-- Here the script of call\_proc\_int\_ques\_by\_user.sql should come

elsif selection = 'T' then

dbms\_output.put\_line('Go to interview\_tips\_tricks.sql Script');

-- Here the script of interview\_tips\_tricks.sql should come

```
elseif selection = 'E' then
    dbms_output.put_line('Go to call_proc_view_response_int_question.sql Script');
    -- Here the script of call_proc_view_response_int_question.sql should come
else
    dbms_output.put_line('Please enter valid options');
end if;
end;
/
```

#### 6. post\_interview\_question.sql

```
set echo off
```

```
set serveroutput on
```

```
set verify off
```

```
set define '&'
```

```
prompt
```

```
prompt 'Enter NUID'
```

```
accept nuid char
```

```
prompt 'Enter JOB ID'
```

```
accept job_id number
```

```
prompt 'Enter Interview Question'
```

```
accept question char
```

```
prompt 'Enter Difficulty Level'
```

```
accept difficulty char
```

```
prompt 'Enter the Technology 1'
```

```
accept technology_list_1 char
```

```
prompt 'Enter the Technology 2'
```

```
accept technology_list_2 char
```

prompt

DECLARE

var1 number;

domain varchar2(40);

CHECK\_CONSTRAINT\_VIOLATED EXCEPTION;

PRAGMA EXCEPTION\_INIT(CHECK\_CONSTRAINT\_VIOLATED, -2290);

FOREIGN\_KEY\_CONSTRAINT\_VIOLATED EXCEPTION;

PRAGMA EXCEPTION\_INIT(FOREIGN\_KEY\_CONSTRAINT\_VIOLATED, -2291);

BEGIN

SELECT DOMAIN into domain FROM JOB\_DETAILS where job\_id = '&job\_id' ;

INSERT into

INTERVIEW\_QUESTIONS(NUID,JOB\_ID,QUESTION\_DESCRIPTION,DIFFICULTY\_LEVEL,TECHNOLOGIES,  
DOMAIN,POSTED\_DATE) values

('&nuid',&job\_id,'&question','&difficulty',technology\_list\_type(technology\_type('&technology\_list\_1'  
''),technology\_type('&technology\_list\_2')),domain,SYSDATE);

var1 := SQL%ROWCOUNT;

if (var1 = 1) then

commit;

dbms\_output.put\_line('Number of Rows affected: ' || var1);

else

rollback;

end if;

EXCEPTION

WHEN NO\_DATA\_FOUND THEN

dbms\_output.put\_line('Please enter valid details');

WHEN CHECK\_CONSTRAINT\_VIOLATED THEN

dbms\_output.put\_line('Insert failed due to check constraint violation');

WHEN FOREIGN\_KEY\_CONSTRAINT\_VIOLATED THEN

```
        dbms_output.put_line('Insert failed due to foreign key constraint violation');  
END;
```

```
/
```

7. post\_doubt.sql

```
set echo off  
set serveroutput on  
set verify off  
set define '&'
```

```
prompt
```

```
prompt 'Enter NUID'
```

```
accept nuid char
```

```
prompt 'Enter Doubt'
```

```
accept doubt char
```

```
prompt 'Enter Domain'
```

```
accept domain char
```

```
prompt
```

```
DECLARE
```

```
    var1 number;
```

```
    FOREIGN_KEY_CONSTRAINT_VIOLATED EXCEPTION;
```

```
    PRAGMA EXCEPTION_INIT(FOREIGN_KEY_CONSTRAINT_VIOLATED, -2291);
```

```
    CHECK_CONSTRAINT_VIOLATED EXCEPTION;
```

```
    PRAGMA EXCEPTION_INIT(CHECK_CONSTRAINT_VIOLATED, -2290);
```

```
BEGIN
```

```
INSERT into DOUBTS(NUID,DOUBT_DESCRIPTION,DOMAIN, POSTED_DATE) values
('&nuid','&doubt',upper('&domain'),SYSDATE);
```

```
var1 := SQL%ROWCOUNT;
```

```
if (var1 = 1) then
```

```
    commit;
```

```
    dbms_output.put_line('Number of Rows affected: ' || var1);
```

```
else
```

```
    rollback;
```

```
end if;
```

```
EXCEPTION
```

```
    WHEN NO_DATA_FOUND THEN
```

```
        dbms_output.put_line('Please enter valid details');
```

```
    WHEN FOREIGN_KEY_CONSTRAINT_VIOLATED THEN
```

```
        dbms_output.put_line('Insert failed due to foreign key constraint violation');
```

```
    WHEN CHECK_CONSTRAINT_VIOLATED THEN
```

```
        dbms_output.put_line('Insert failed due to Invalid Domain');
```

```
END;
```

```
/
```

Procedure Script:

-----

1. View Interview Question based on Domain:

-----

A. Create a Procedure

-----



```
create or replace procedure view_interview_questions(i_domain in varchar2, int_ques_refcursor out
sys_refcursor)
```

```
is
```

```
begin
```

```
open int_ques_refcursor for select QUESTION_ID, JOB_ID, QUESTION_DESCRIPTION, DIFFICULTY_LEVEL,
POSTED_DATE from INTERVIEW_QUESTIONS where DOMAIN = i_domain
```

```
order by POSTED_DATE DESC;
```

```
end;
```

## B. Executing the Procedure

```
-----  
DECLARE
```

```
    type iq_out_record is record(  
        i_question_id interview_questions.question_id%type,  
        i_job_id interview_questions.job_id%type,  
        i_question_description interview_questions.question_description%type,  
        i_difficulty_level interview_questions.difficulty_level%type,  
        i_posted_date interview_questions.posted_date%type  
    );
```

```
    iq_out iq_out_record;
```

```
    i_domain interview_questions.domain%type;
```

```
    i_int_ques_refcursor SYS_REFCURSOR;
```

```

BEGIN

    DBMS_OUTPUT.PUT_LINE('QUESTION ID   JOB_ID   QUESTION DESCRIPTION
DIFFICULTY LEVEL   POSTED DATE');

    DBMS_OUTPUT.PUT_LINE('-----
-----');

    view_interview_questions('&i_domain', i_int_ques_refcursor);

    FETCH i_int_ques_refcursor INTO iq_out;

    while i_int_ques_refcursor%FOUND

    loop

        DBMS_OUTPUT.PUT_LINE(iq_out.i_question_id || '
' || iq_out.i_job_id || '
' ||
iq_out.i_question_description || '
' || iq_out.i_difficulty_level || '
' || iq_out.i_posted_date);

        FETCH i_int_ques_refcursor INTO iq_out;

    end loop;

    if i_int_ques_refcursor%ROWCOUNT=0 THEN

        dbms_output.put_line('Please enter a valid Domain Name');

        CLOSE i_int_ques_refcursor;

    end if;

EXCEPTION

    WHEN NO_DATA_FOUND THEN

        dbms_output.put_line('No records');

END;

/
-----

```

## 2. View Interview Questions Posted by User:

---

### A: Create a Procedure

---

create or replace procedure int\_ques\_by\_user(i\_nuid in char, int\_ques\_user\_refcursor out  
sys\_refcursor)

is

begin

open int\_ques\_user\_refcursor for select QUESTION\_ID, JOB\_ID, QUESTION\_DESCRIPTION,  
DIFFICULTY\_LEVEL, POSTED\_DATE from INTERVIEW\_QUESTIONS where NUID = i\_nuid  
order by POSTED\_DATE DESC;

end;

### B: Executing the Procedure

---

DECLARE

type iq\_out\_record is record(  
i\_question\_id interview\_questions.question\_id%type,  
i\_job\_id interview\_questions.job\_id%type,  
i\_question\_description interview\_questions.question\_description%type,  
i\_difficulty\_level interview\_questions.difficulty\_level%type,  
i\_posted\_date interview\_questions.posted\_date%type  
);

```

        iq_out iq_out_record;

        i_nuid interview_questions.nuid%type;

        i_int_ques_user_refcursor SYS_REFCURSOR;


BEGIN

    DBMS_OUTPUT.PUT_LINE('QUESTION ID   JOB_ID   QUESTION DESCRIPTION
DIFFICULTY LEVEL   POSTED DATE');

    DBMS_OUTPUT.PUT_LINE('-----
-----');

    int_ques_by_user('&i_nuid', i_int_ques_user_refcursor);

    FETCH i_int_ques_user_refcursor INTO iq_out;

    while i_int_ques_user_refcursor%FOUND

    loop

        DBMS_OUTPUT.PUT_LINE(iq_out.i_question_id || '   ' || iq_out.i_job_id || '   ' ||
iq_out.i_question_description || '   ' || iq_out.i_difficulty_level || '   ' || iq_out.i_posted_date);

        FETCH i_int_ques_user_refcursor INTO iq_out;

    end loop;

    if i_int_ques_user_refcursor%ROWCOUNT=0 THEN

        dbms_output.put_line('Please enter valid NUID');

        CLOSE i_int_ques_user_refcursor;

    end if;

    EXCEPTION

```

```
    WHEN NO_DATA_FOUND THEN
        dbms_output.put_line('No records');
END;
/
```

---

### 3. View Doubts Posted by User:

---

A: Create a Procedure

---

```
create or replace procedure doubts_by_user(i_nuid in char, doubts_user_refcursor out sys_refcursor)
```

```
is
```

```
begin
```

```
    open doubts_user_refcursor for select DOUBT_ID, DOUBT_DESCRIPTION, DOMAIN, POSTED_DATE from
    DOUBTS where NUID = i_nuid
```

```
    order by POSTED_DATE DESC;
```

```
end;
```

### B. Executing the PROCEDURE

---

```
DECLARE
```

```
    type d_out_record is record(
```

```

        i_doubt_id doubts.doubt_id%type,
i_doubt_description doubts.doubt_description%type,
i_domain doubts.domain%type,
i_posted_date doubts.posted_date%type
    );

```

```

d_out d_out_record;

i_nuid interview_questions.nuid%type;

i_doubts_user_refcursor SYS_REFCURSOR;

```

```

BEGIN

```

```

    DBMS_OUTPUT.PUT_LINE('DOUBT ID    DOUBT DESCRIPTION                DOMAIN    POSTED
DATE');

```

```

    DBMS_OUTPUT.PUT_LINE('-----
-----');

```

```

    doubts_by_user('&i_nuid', i_doubts_user_refcursor);

```

```

    FETCH i_doubts_user_refcursor INTO d_out;

```

```

    while i_doubts_user_refcursor%FOUND

```

```

    loop

```

```

        DBMS_OUTPUT.PUT_LINE(d_out.i_doubt_id || '        ' || d_out.i_doubt_description || '    '
|| d_out.i_domain || '    ' || d_out.i_posted_date);

```

```

        FETCH i_doubts_user_refcursor INTO d_out;

```

```

    end loop;

```

```

if i_doubts_user_refcursor%ROWCOUNT=0 THEN
    dbms_output.put_line('Please enter valid NUID');
        CLOSE i_doubts_user_refcursor;
end if;
EXCEPTION
    WHEN NO_DATA_FOUND THEN
        dbms_output.put_line('No records');
END;
/

```

---

#### 4. Response to Interview Question Posted:

---

A: Create a Procedure

---

```

create or replace PROCEDURE INT_QUES_RESPONSE_FUNC(INT_QUES IN NUMBER, RESPONSE IN LONG,
ROWS_AFFECTED OUT NUMBER)
AS
SQL_STMT VARCHAR2(500);
sysdate_var date;
BEGIN
    sysdate_var := SYSDATE;
    SQL_STMT := 'INSERT INTO INT_QUES_RESPONSE(INT_QUES_ID,
    RESPONSE_DESCRIPTION,RESPONSE_DATE) VALUES (:1,:2,:3)';
    EXECUTE IMMEDIATE SQL_STMT USING INT_QUES, RESPONSE, sysdate_var;
    ROWS_AFFECTED := SQL%ROWCOUNT;
    if (ROWS_AFFECTED = 1) then

```

```
        commit;

    else
        rollback;
    end if;

END;
```

#### B. Executing the PROCEDURE

---

```
set serveroutput on

DECLARE
    i_response_description int_ques_response.response_description%type;
    i_question_id interview_questions.question_id%type;
    rows_affected number;
BEGIN

    INT_QUES_RESPONSE_FUNC(&i_question_id, '&i_response_description',rows_affected);
    dbms_output.put_line('Number of Rows Affected: ' || to_char(rows_affected));
END;

/
```

---

Trigger Scripts:



---

## 1. User Login Trigger

---

```
create or replace TRIGGER USER_LOGIN_TRIGGER
  AFTER LOGON
  ON C##PROJECT_ADMIN.SCHEMA
BEGIN
INSERT INTO USER_LOGIN_LOG (USERNAME, LOGIN_DATE) VALUES (USER, SYSDATE);
COMMIT;
END;
```

---

## 2. User Signup Trigger

```
create or replace TRIGGER USER_SIGNUP_TRIGGER
  AFTER INSERT ON USER_INFO
  FOR EACH ROW
BEGIN
  if (instr(:new.EMAIL,'northeastern.edu')>0) then
    INSERT INTO USER_SIGNUP_LOG values (:new.email, 'Faculty',SYSDATE);
  else
    INSERT INTO USER_SIGNUP_LOG values (:new.email, 'Student',SYSDATE);
  end if;
END USER_SIGNUP_TRIGGER;
/
```

---

### 3. Insert Interview Questions Trigger

```
create or replace TRIGGER INT_QUES_POSTED_TRIGGER
AFTER INSERT
OR DELETE
ON INTERVIEW_QUESTIONS
FOR EACH ROW

BEGIN
CASE
WHEN INSERTING THEN
            INSERT INTO INT_QUES_POSTED_LOG values (:new.QUESTION_ID,
:new.NUID,:new.POSTED_DATE);
        WHEN DELETING THEN
            DELETE FROM INT_QUES_POSTED_LOG WHERE QUESTION_ID = :new.QUESTION_ID;
END CASE;

END INT_QUES_POSTED_TRIGGER;
```

---

### 4. Insert Interview Questions Trigger

```
create or replace TRIGGER DOUBT_POSTED_TRIGGER
AFTER INSERT
OR DELETE
ON DOUBTS
FOR EACH ROW
```

```

        BEGIN
CASE
    WHEN INSERTING THEN
        INSERT INTO DOUBT_POSTED_LOG values (:new.DOUBT_ID,
:new.NUID,:new.POSTED_DATE);
    WHEN DELETING THEN
        DELETE FROM DOUBT_POSTED_LOG WHERE DOUBT_ID = :new.DOUBT_ID;
END CASE;
END DOUBT_POSTED_TRIGGER;

```

Trigger Tables:

---

1. Login Trigger Table

---

```

CREATE TABLE USER_LOGIN_LOG(
    USERNAME VARCHAR2(100),
    LOGIN_DATE DATE );

```

---



---

2. Signup Trigger Table

---

```

CREATE TABLE USER_SIGNUP_LOG(
    USERNAME VARCHAR2(30),
    DESIGNATION VARCHAR2(30),
    SIGNUP_DATE DATE );

```

---

### 3. Interview Question Posted Table

---

```
CREATE TABLE INT_QUES_POSTED_LOG(  
QUESTION_ID NUMBER,  
NUID NUMBER,  
POSTED_DATE DATE );
```

---

---

### 4. Doubt Posted Table

---

```
CREATE TABLE DOUBT_POSTED_LOG(  
DOUBT_ID NUMBER,  
NUID NUMBER,  
POSTED_DATE DATE );
```

---

### VArray Scripts:

---

#### 1. Technology List VArray

---

```
create or replace TYPE TECHNOLOGY_LIST_TYPE AS VARRAY(5) OF TECHNOLOGY_TYPE;
```

```
create or replace TYPE TECHNOLOGY_TYPE AS OBJECT (object_value VARCHAR2(200));
```

-----