



American International University-Bangladesh (AIUB)

Project Name: Cooking Recipe Portal

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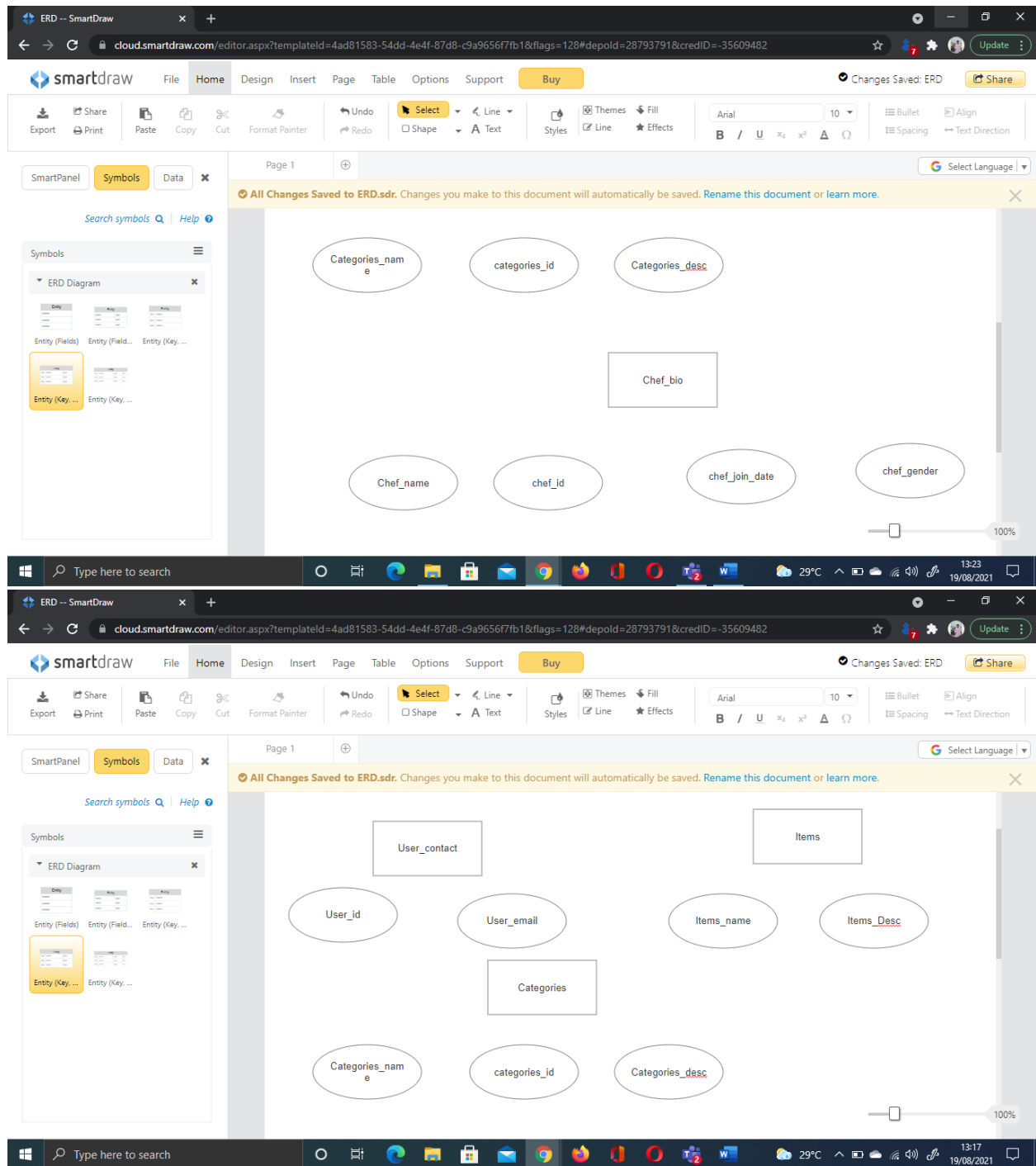
Scenario:

Cooking Recipe Portal is a portal where Chefs can post recipes. All recipes are stored in a table and Ingredients of the All Recipes in another table. All the recipes are divided into main Categories like Breakfast, Lunch, Dinner etc. Those categories are also divided into Food items like Rice, Juice, Ice-Cream etc. For Example, The **Rice** item, there are all rice related recipes. A user can easily find recipes through searching. Otherwise they can go to the category section. For example: If a user goes to the **Lunch** category, he can find all food items which are generally taken in **Lunch**. Then if he selects an item For Example, **Curry**. There he can find all **Curry** related recipes. Users can see the profile of the Chef and all ingredients related to a particular Recipe.

In our Portal we have,

5 Chefs Profile, 5 Users Profile, 5 Main Categories, 10 Items, 10 Recipes, 30 Recipe Ingredients List.

Entity Relationship Diagram (ER Diagram):

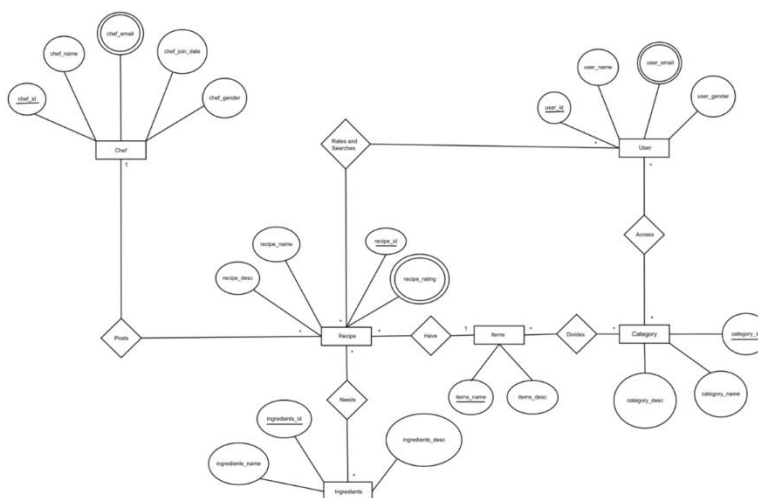


The screenshot displays the SmartDraw web application interface. At the top, the browser address bar shows the URL: cloud.smartdraw.com/editor.aspx?templateId=4ad81583-54dd-4e4f-87d8-c9a9656f7b1&flags=128#depold=28793791&credID=-35609482. The SmartDraw logo and navigation menu (File, Home, Design, Insert, Page, Table, Options, Support, Buy) are visible. The interface includes a toolbar with various drawing tools (Export, Share, Print, Paste, Copy, Cut, Format Painter, Undo, Redo, Select, Line, Shape, Text, Styles, Themes, Fill, Effects) and a right sidebar with formatting options (Bullet, Align, Spacing, Text Direction). A yellow banner at the top right states "Changes Saved: ERD" and "Share".

The main workspace shows an ERD diagram with the following entities and attributes:

- User_bio** (Entity): Attributes include User_id, User_name, User_gender, and User_contact.
- Chef_contact** (Entity): Attributes include Chef_id and chef_email.
- Items** (Entity): Attributes include Items_name and Items_Desc.

The diagram also shows a "User_contact" entity and a "User_email" attribute. The "Items_Desc" attribute is underlined, indicating it is a primary key. The interface includes a "Search symbols" bar and a "Select Language" dropdown.



Normalization Final List :

NB :

“Green Colour For Primary Key

Multiple Green Colour For Composite Primary Key

Red Colour For Foreign Key”

1. Chef_id, Chef_name, Chef_join_date, Chef_gender
2. Chef_id, Chef_email
3. Recipe_id, Recipe_name, Recipe_desc, Chef_id, Items_name
4. Recipe_id, Recipe_Rating, User_id
5. Ingredients_id, Ingredients_name, Ingredients desc
6. RI_id, Recipe_id, Ingredients_id
7. User_id, User_name, User_gender
8. User_id, User_email
9. UR_id, User_id, Recipe_id
10. Category_id, Category_id, Category_desc
11. UC_id, User_id, Category_id
12. Items_name, Items_desc
13. CI_id, Category_id, Items_name

Table Create Screenshot

Chef Contact

The screenshot shows the Oracle Database Express Edition SQL Commands window. The user is SCOTT. The SQL Commands tab is active, showing the following commands:

```
4.INSERT INTO chef_bio( chef_id,chef_name,chef_join_date,chef_gender) VALUES ('C0004','Michelle Rousseau','2-Jan-2020','Male')
5.INSERT INTO chef_bio( chef_id,chef_name,chef_join_date,chef_gender) VALUES ('C0005','Suzanne Rousseau','5-Jan-2020','Female')
DESC Chef_Bio

Create table Chef_Contact(
  Chef_id varchar2(5),
  Chef_email varchar2(35)
)
```

The results pane shows "Table created." and "0.02 seconds". The bottom status bar indicates "Language: en-us" and "Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved." The Windows taskbar at the bottom shows the time as 2:40 AM on 8/19/2021.

Recipe Info

The screenshot shows the Oracle Database Express Edition SQL Commands window. The user is SCOTT. The SQL Commands tab is active, showing the following command:

```
Create table Recipe_Info(
  Recipe_id varchar2(5),
  Recipe_name varchar2(50),
  Recipe_desc varchar2(1200),
  Chef_id varchar2(5),
  Items_name varchar2(20)
)
```

The results pane shows "Table created." and "0.01 seconds". The bottom status bar indicates "Language: en-us" and "Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved." The Windows taskbar at the bottom shows the time as 2:42 AM on 8/19/2021.

Categories

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2380112903731764::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10000

Save Run

```
Create table Categories(  
  Category_id varchar2 (6),  
  Category_name varchar2 (20),  
  Category_desc varchar2 (500))  
  
Alter table Categories add constraint Cat_IDPk primary key(Category_id)  
  
insert into Categories values('CT0001','Breakfast','Start your day with an easy pancake or omelet breakfast and many more')  
  
insert into Categories values('CT0002','Lunch','Looking for a recipe for Lunch? We have a lot for you')  
  
insert into Categories values('CT0003','Dinner','What's for dinner? You have selected the right category. Check regular recipes for usual')
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

Language: en-us

Application Express 2.1.0.0.39
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Category Item

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2380112903731764::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10000

Save Run

```
Create table Category_Item(  
  CI_id varchar2 (6),  
  Category_id varchar2 (6),  
  Items_name varchar2 (30)  
)  
  
Alter table Category_Item add constraint CatIt_IDPk primary key(CI_id)  
  
Alter table Category_item add constraint CatIt_CIDfk foreign key(category_id) references categories(category_id)
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

Language: en-us

Application Express 2.1.0.0.39
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Ratings

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2380112903731764::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display: 10000 Save Run

```
Create table Ratings(  
  recipe_id varchar2(5),  
  recipe_rating number(3,2),  
  user_id varchar2(5)  
)  
  
Alter table Ratings add constraint Rat_IDRatck primary key(recipe_id,recipe_rating)  
  
Alter table Ratings add constraint Rat_IDRatfk foreign key(user_id) references User_bio(user_id)  
  
desc Ratings
```

Results Explain Describe Saved SQL History

Table created.

0.00 seconds

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User Recipe

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2380112903731764::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display: 10000 Save Run

```
Create table User_Recipe(  
  UR_id varchar2(6),  
  user_id varchar2(5),  
  recipe_id varchar2(5)  
)  
  
Alter table User_Recipe add constraint URcp_IDpk primary key(UR_id)
```

Results Explain Describe Saved SQL History

Table created.

0.01 seconds

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Recipe Ingredients

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2380112903731764::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10000 Save Run

```
create table Recipe_Ingredients(  
  RI_id varchar2(6),  
  Recipe_id varchar2(5),  
  Ingredient_id number(4)  
)
```

Results Explain Describe Saved SQL History

Table created.

0.00 seconds

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Language: en-us

User Category

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2380112903731764::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display 10000 Save Run

```
insert into Recipe_Ingredients values ('R0007', 'R0009', 1002)  
insert into Recipe_Ingredients values ('RI0028', 'R0009', 1003)  
  
insert into Recipe_Ingredients values ('RI0029', 'R0010', 1002)  
insert into Recipe_Ingredients values ('RI0030', 'R0010', 1008)  
  
Create table User_Category(  
  UC_id varchar2(6),  
  User_id varchar2(5),  
  Category_id varchar2(6)  
)  
  
Alter table User_Category add constraint UCat_IDpk primary key(UC_id)
```

Results Explain Describe Saved SQL History

Table created.

0.00 seconds

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Language: en-us

Chef Bio

SQL Commands

Oracle Application Express

Welcome SAYEM (Logout)

Home Application Builder SQL Workshop Team Development Administration

Home > SQL Workshop > SQL Commands

Schema: SAYEM

Autocommit Rows: 10 Save Run

```
create table Chef_Bio(  
chef_id varchar2(5),  
chef_name varchar2(30),  
chef_join_date date,  
chef_gender varchar2(6)  
);  
  
alter table Chef_Bio add constraint Cbio_IDpk primary key(chef_id);  
  
1.INSERT INTO Chef_Bio( chef_id,chef_name,chef_join_date,chef_gender) VALUES ('C0001','Todd Richards','14-Jul-2018','Male')  
2.INSERT INTO Chef_Bio( chef_id,chef_name,chef_join_date,chef_gender) VALUES ('C0002','Sarah Lampel','20-Nov-2019','Female')  
3.INSERT INTO Chef_Bio( chef_id,chef_name,chef_join_date,chef_gender) VALUES ('C0003','Alon Shaya','13-Sep-2019','Male')
```

Results Explain Describe Saved SQL History

Table created.

0.00 seconds

Application Express 4.0.2.00.09

User Contact

SQL Commands

Oracle Application Express

Welcome SAYEM (Logout)

Home Application Builder SQL Workshop Team Development Administration

Home > SQL Workshop > SQL Commands

Schema: SAYEM

Autocommit Rows: 10 Save Run

```
create table User_Contact(  
User_id varchar2(5),  
User_email varchar2(35)  
);  
  
alter table User_Contact add constraint UCtc_IDMailck primary key(User_id,User_email)  
  
insert into User_Contact values('U0001','hasan22@yahoo.com')  
insert into User_Contact values('U0002','banti54@gmail.com')  
insert into User_Contact values('U0002','banti72@gmail.com')
```

Results Explain Describe Saved SQL History

Table created.

0.00 seconds

Application Express 4.0.2.00.09

User Bio

SQL Commands

Oracle Application Express

Welcome SAYEM (Logout)

Home Application Builder SQL Workshop Team Development Administration

Home > SQL Workshop > SQL Commands

Schema: SAYEM

Autocommit Rows: 10 Save Run

```

User_id, username, user_gender (User Bio)

create table User_Bio(
  User_id varchar2 (5),
  User_name varchar2 (30),
  User_gender varchar2 (6)
)

```

Results Explain Describe Saved SQL History

Table created.

0.07 seconds

Application Express 4.0.2.00.09

ingredients_info

SQL Commands Object Browser (44) Ed Sheeran - Shape of You Database Notes - Google Docs

127.0.0.1:8080/apex/f?p=4500:1003:2109603627271301::NO::

Oracle Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

Autocommit Display: 10 Save Run

```

desc ingredients_info

```

Results Explain Describe Saved SQL History

Object Type: TABLE Object: INGREDIENTS_INFO

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
INGREDIENTS_INFO	INGREDIENT_ID	Number	-	4	0	1	-	-	-
	INGREDIENT_NAME	Varchar2	20	-	-	-	✓	-	-
	INGREDIENT_DESC	Varchar2	400	-	-	-	✓	-	-

1 - 3

Application Express 4.0.2.00.09

Items

SQL Commands

Object Browser

(44) Ed Sheeran - Shape of You

Database Notes - Google Docs

127.0.0.1:8080/apex/f?p=4500:1003:2109603627271301::NO::

ORACLE Database Express Edition

Home Logout Help

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

desc items

Results Explain Describe Saved SQL History

Object Type TABLE Object ITEMS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ITEMS	ITEMS_NAME	Varchar2	30	-	-	1	-	-	-
	ITEMS_DESC	Varchar2	300	-	-	-	✓	-	-
1 - 2									

Application Express 2.1.0.00.39
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Language: en-us

29°C 3:36 PM 8/19/2021

Add Constraints And Sequences

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2380112903731764::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 10000

Save Run

```
create sequence Ingredients_list
start with 1000
increment by 1
maxvalue 9999
cycle
minvalue 1
Nocache

select *
from user_sequence
```

Results Explain Describe Saved SQL History

Sequence created.

0.02 seconds

Language: en-us

Application Express 2.1.0.0.39
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SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2380112903731764::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 10000

Save Run

```
maxvalue 9999
cycle
minvalue 1
Nocache

select *
from user_sequence

Create table Ingredients_Info(
Ingredient_id number (4),
Ingredient_name varchar2 (20),
Ingredient_desc varchar2 (400)
```

Results Explain Describe Saved SQL History

Sequence created.

0.02 seconds

Language: en-us

Application Express 2.1.0.0.39
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SQL Commands

Meet - jzo-hchs-zuf

127.0.0.1:8080/apex/f?p=4500:1003:1011891729337644::NO::

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 50 Save Run

```
alter table User_Contact add constraint Mango primary key(User_id,User_email)
```

Results Explain Describe Saved SQL History

Table altered.

0.01 seconds

Application Express 2.1.0.00.39
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SQL Commands

Meet - jzo-hchs-zuf

127.0.0.1:8080/apex/f?p=4500:1003:1011891729337644::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 50 Save Run

```
ALTER TABLE user_bio  
ADD CONSTRAINT UB_bio  
primary KEY (user_id)
```

Results Explain Describe Saved SQL History

Table altered.

0.00 seconds

Application Express 2.1.0.00.39
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SQL Commands

Meet - jzo-hchs-zuf

how to check all constraints on a

127.0.0.1:8080/apex/f?p=4500:1003:1011891729337644:NO...

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 50 Save Run

```
Alter table User_Category add constraint UCat_IDpk primary key(UC_id)
Alter table User_Category add constraint UCat_UIDfk foreign key (User_id) references User_Bio(User_id)
Alter table User_Category add constraint UCat_UIDfk1 foreign key (Category_id) references Categories(Category_id)
```

Results Explain Describe Saved SQL History

Table altered.

0.02 seconds

Application Express 2.1.0.00.39

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Language: en-us

29°C Rain showers 1:24 PM 8/19/2021

SQL Commands

Object Browser

Meet - jzo-hchs-zuf

127.0.0.1:8080/apex/f?p=4500:1001:8575491414965690:NO...

ORACLE Database Express Edition

User: SCOTT

Home > Object Browser

Sequences

ABC

INGREDIENTS_LIST

INGREDIENTS_LIST Create

Object Details Grants Dependencies SQL

Alter Drop

Min Value	1
Max Value	9999
Increment By	1
Cycle Flag	Y
Order Flag	N
Cache Size	0
Last Number	1011

aiub-logo.svg Show all

29°C 2:56 PM 8/19/2021

View

The screenshot shows the Oracle SQL Developer interface. The top toolbar includes buttons for 'Autocommit', 'Display' (set to 10), 'Save', and 'Run'. The SQL command window contains the following SQL code:

```
CREATE or replace VIEW VIEW_CHEF_CONTACT AS  
SELECT CHEF_ID, CHEF_EMAIL  
FROM CHEF_CONTACT with read only  
  
select *  
from  
VIEW_CHEF_CONTACT
```

Below the command window, the 'Results' tab is active, displaying a table with two columns: 'CHEF_ID' and 'CHEF_EMAIL'. The table contains 5 rows of data:

CHEF_ID	CHEF_EMAIL
C0001	richardt@yahoo.com
C0001	toddric@gmail.com
C0002	sarah19@gmail.com
C0003	alonsh@hotmail.com
C0003	alonshaya@yahoo.com

Below the table, it states '5 rows returned in 0.00 seconds' and provides a 'CSV Export' link. The bottom status bar shows 'Language: en-us' and 'Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.'

Questions Related to Project:

1. A Particular Recipe got How much Average Rating

Query:

```
Select Recipe_name, AVG(Recipe_Rating) "Average Rating"  
From Recipe_info, Ratings  
Where Recipe_info.Recipe_id = Ratings.Recipe_id and Recipe_info.Recipe_id= 'R0001'  
Group by Recipe_name
```

2. A Particular Chef posted How much Recipes

Query:

```
Select Chef_name, count(Recipe_id)  
From Recipe_Info, chef_bio  
Where Recipe_Info.chef_id = chef_bio.chef_id and chef_bio.chef_id = 'C0001'  
Group by chef_name
```

3. Which Recipe Gets Highest Average Rating

Query:

```
Select recipe_name,avg(recipe_rating) "Rating"
From recipe_info, ratings
Where recipe_info.recipe_id = ratings.recipe_id
Group by recipe_name
Order by avg(recipe_rating) desc
```

4. Users Can See the Profile of Chefs

Query:

```
create or replace view UserSeesChef as
select *
from chef_bio
with read only

select * from UserSeesChef
```

5. How experienced a particular chef is in Days.

Query:

```
select Chef_name, Trunc((SYSDATE-Chef_Join_Date)) "Chef's Experience in Days"
from Chef_bio
order by (SYSDATE-Chef_Join_Date) desc
```

6. How much Ingredients have used in every Recipe

Query:

```
Select Recipe_name, Count(Ingredient_id)
From Recipe_Ingredients,Recipe_Info
Where Recipe_Ingredients.Recipe_id=Recipe_Info.Recipe_id
Group by Recipe_name
```

7. Which items belong to a particular Category.

Query:

```
Select items_name  
From category_item  
Where category_id = 'CT0001'
```

8. Which recipes are belongs to a particular Item

Query:

```
Select Items_name, Recipe_Name  
From Recipe_info  
Where Items = 'Juice'
```

9. Search a Recipe where Item name Ends with 'S'

Query:

```
Select Recipe_name, Items_name  
From Recipe_Info  
Where Items_name like '%S'
```

10. Find the recipes who get the equal rating which is items wise highest rating.

Query:

```
Select recipe_name, recipe_rating  
From recipe_info, ratings  
Where recipe_info.recipe_id=ratings.recipe_id and recipe_rating in ( select max(recipe_rating)  
From ratings, recipe_info  
where ratings.recipe_id=recipe_info.recipe_id  
Group by items_name)
```