Unit 12 Problem Set Submission Form

Overview

Your Name	Jainish Savaliya
Your SU Email	jsavaliy@syr.edu

Instructions

Put your name and SU email at the top. Answer these questions all from the lab. When asked to include screenshots, please follow the screen shot guidelines from the first lab.

Remember as you complete the problem sets it is not only about getting it right / correct. We will discuss the answers in class so it's important to articulate anything you would like to contribute to the discussion in your answer:

- If you feel the question is vague, include any assumptions you've made.
- If you feel the answer requires interpretation or justification provide it.
- If you do not know the answer to the question, articulate what you tried and how you are stuck.

Questions

Answer these questions using the problem set submission template. You will need to consult the logical model in the overview section for details. For any screenshots provided, please follow the guidelines for submitting a screenshot.

Questions

Answer these questions using the problem set submission template. You will need to consult the logical model in the overview section for details. For any screenshots provided, please follow the guidelines for submitting a screenshot.

1. Provide a screenshot of your working migrations for steps 1.4, 1.4 3.1 and 3.2 in the walkthrough.

```
31   GO
32   select isbn, title, price, pages, pub_no, pub_name, pub_website
33   into fudgenbooks_1nf
34   from fudgenbooks
35   go
36   alter table fudgenbooks_1nf add CONSTRAINT pk_fudgenbooks_1nf primary key (isbn)
37   GO
38   select * from fudgenbooks_1nf
39   GO
40   select distinct value as subject from fudgenbooks cross apply string_split(subjects, ',')
41   select isbn, title, price, pages, pub_no
42   from fudgenbooks_1nf
43     select distinct pub_no, pub_name, pub_website
44     from fudgenbooks_1nf
45
```

Results Messages

1	id theft
2	imbezzle
3	money laundering
4	phising
5	ponzi
6	scams

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	isbn	title	price	pages	pub_no
1	372317842	Introduction to Money Launde…	29.95	367	101
2	472325845	Imbezzle Like a Pro	34.95	670	101
3	535621977	The Internet Scammer's Bible	44.95	944	102
4	635619239	Art of the Ponzi Scheme	39.95	450	102

	pub_no	pub_name	pub_website
1	101	Rypoff	http://www.rypoffpublishing.…
2	102	BS Press	http://www.bspress.com/books

2. Provide a screenshot of your adding foreign keys in step 4 and a separate screenshot of your code to drop the foreign keys.
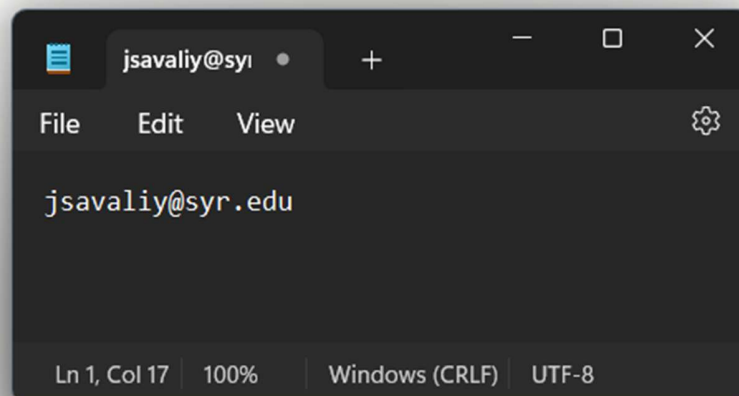
```sql
146
147  alter table fb_book_authors add
148        CONSTRAINT fk_book_authors_isbn
149              foreign key (isbn) REFERENCES fb_books(isbn)
150
151  alter table fb_book_authors add
152        CONSTRAINT fk_book_authors_authors_name
153              foreign key (author_name) REFERENCES fb_authors(authors_name)
154
155  alter table fb_book_subjects add
156   CONSTRAINT fk_book_subjects_isbn
157              foreign key (isbn) REFERENCES fb_books(isbn)
158
159  alter table fb_book_subjects add
160   CONSTRAINT fk_book_subjects_subjects
161              foreign key (subject) REFERENCES fb_subjects(subject)
162
163  alter table fb_books add
164   CONSTRAINT fk_books_pub_no
165              foreign key (pub_no) REFERENCES fb_publishers(pub_no)
166
167  GO
168
```

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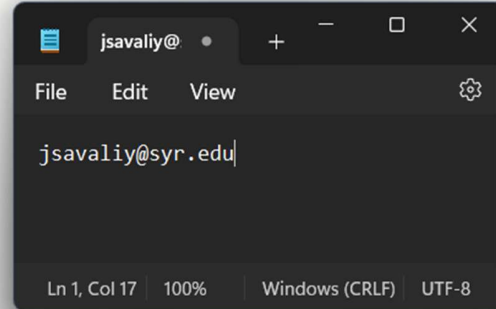
```
157
158    GO
159
160    if exists  (select * from  INFORMATION_SCHEMA. CONSTRAINT_TABLE_USAGE
161          where CONSTRAINT_NAME = 'fk_book_authors_isbn')
162              alter table fb_book_authors drop fk_book_authors_isbn
163              GO
164    if exists  (select * from  INFORMATION_SCHEMA. CONSTRAINT_TABLE_USAGE
165          where CONSTRAINT_NAME = 'fk_book_authors_authors_name')
166              alter table fb_book_authors drop fk_book_authors_authors_name
167              GO
168    if exists  (select * from  INFORMATION_SCHEMA. CONSTRAINT_TABLE_USAGE
169          where CONSTRAINT_NAME = 'fk_book_subjects_subjects')
170              alter table fb_book_subjects drop fk_book_subjects_subjects
171              GO
172    if exists  (select * from  INFORMATION_SCHEMA. CONSTRAINT_TABLE_USAGE
173          where CONSTRAINT_NAME = 'fk_book_subjects_subjects')
174              alter table fb_book_subjects drop fk_book_subjects_subjects
175              GO
176    if exists  (select * from  INFORMATION_SCHEMA. CONSTRAINT_TABLE_USAGE
177          where CONSTRAINT_NAME = 'fk_books_pub_no')
178              alter table fb_books drop fk_books_pub_no
179
180    GO
```

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Normalize the **xyz_consulting** database. You can get this script in the same place you got this lab.

3. Provide a screenshot of your migration scripts (if any) to 1NF

```
(
    project_id int not null,
    project_name varchar(50) not null,
    employee_id int not null,
    employee_name varchar(50) not null,
    rate_category char(1) not null,
    rate_amount money not null,
    billable_hours int not null,
    total_billed money not null,
    constraint pk_xyz_consulting primary key(project_id, employee_id)
)
insert into xyz_consulting values
(1023,  'Madagascar travel site',  11, 'Carol Ling',   'A',    60.00,   5,   300.00 ),
(1023,  'Madagascar travel site',  12, 'Chip Atooth',  'B',    50.00,   10,  500.00 ),
(1023,  'Madagascar travel site',  16, 'Charlie Horse',  'C',    40.00,   2,   80.00),
(1056,  'Online estate agency', 11, 'Carol Ling',   'D',    90.00,   5,   450.00 ),
(1056,  'Online estate agency', 17, 'Avi Maria',    'B',    50.00,   2,   100.00 ),
(1099,  'Open travel network',  11, 'Carol Ling',   'A',    60.00,   6,   360.00 ),
(1099,  'Open travel network',  12, 'Chip Atooth',  'C',    40.00,   8,   320.00 ),
(1099,  'Open travel network',  14, 'Arnie Hurtz',  'D',    90.00,   3,   270.00 )
GO
select * from xyz_consulting order by employee_id
```

100 %

Results   Messages

	project_id	project_name	employee_id	employee_name	rate_category	rate_amount	billable_hours	total_billed
1	1023	Madagascar travel site	11	Carol Ling	A	60.00	5	300.00
2	1056	Online estate agency	11	Carol Ling	D	90.00	5	450.00
3	1099	Open travel network	11	Carol Ling	A	60.00	6	360.00
4	1099	Open travel network	12	Chip Atooth	C	40.00	8	320.00
5	1023	Madagascar travel site	12	Chip Atooth	B	50.00	10	500.00
6	1099	Open travel network	14	Arnie Hurtz	D	90.00	3	270.00
7	1023	Madagascar travel site	16	Charlie Horse	C	40.00	2	80.00
8	1056	Online estate agency	17	Avi Maria	B	50.00	2	100.00

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4. Provide a screenshot of your migration scripts (if any) to 2NF

```
  (1099,  'Open travel network',  11, 'Carol Ling',    'A',    60.00,    6,    360.00 ),
  (1099,  'Open travel network',  12, 'Chip Atooth',   'C',    40.00,    8,    320.00 ),
  (1099,  'Open travel network',  14, 'Arnie Hurtz',   'D',    90.00,    3,    270.00 )
  GO
select * from xyz_consulting order by employee_id

  go
  drop table if exists xyz_consulting_2nf
  go
select project_id, employee_id, rate_category, rate_amount, billable_hours, total_billed
  into xyz_consulting_2nf
  from xyz_consulting
  go
  alter table xyz_consulting_2nf add constraint pk_xyz_consulting_2nf primary key(project_id, employee_id)
  go
  select * from xyz_consulting_2nf
```

100 %

⊞ Results ▨ Messages

	project_id	employee_id	rate_category	rate_amount	billable_hours	total_billed
1	1023	11	A	60.00	5	300.00
2	1023	12	B	50.00	10	500.00
3	1023	16	C	40.00	2	80.00
4	1056	11	D	90.00	5	450.00
5	1056	17	B	50.00	2	100.00
6	1099	11	A	60.00	6	360.00
7	1099	12	C	40.00	8	320.00
8	1099	14	D	90.00	3	270.00

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5. Provide a screenshot of your migration scripts (if any) to 3NF

```
65
66    go
67    drop table if EXISTS xyz_billing
68    GO
69    select project_id, employee_id, rate_category, billable_hours, total_billed
70    INTO xyz_billing
71    from xyz_consulting_2nf
72    alter table xyz_billing add constraint pk_xyz_billing primary key(project_id, employee_id)
73    go
74    select * from xyz_billing
75
76    GO
77    drop table if exists xyz_rates
78    go
79    select distinct rate_category, rate_amount
80    into xyz_rates
81     from xyz_consulting_2nf
82     go
83     alter table xyz_rates add CONSTRAINT pk_xyz_rates primary key (rate_category)
84     go
85     select * from xyz_rates
```

Results   Messages

	project_id	employee_id	rate_category	billable_hours	total_billed
1	1023	11	A	5	300.00
2	1023	12	B	10	500.00
3	1023	16	C	2	80.00
4	1056	11	D	5	450.00
5	1056	17	B	2	100.00
6	1099	11	A	6	360.00
7	1099	12	C	8	320.00
8	1099	14	D	3	270.00

	rate_category	rate_amount
1	A	60.00
2	B	50.00

6. Provide a list of tables in 3NF

```
103
104
105    Projects <---------------Billing------------------>Employees
106               |        |       |       |       |
107               |        |       |       |       |       |
108               |        |       |       |       |       |
109               |        |       |       |       |       |
110               |        |       |       |       |       |
111               |        |       |       |      \|/
112               |        |       |       |       |
113               |        |       |       |      Rates
114               |        |       |       |
115               |        |       |       |
116    */
```

Results   Messages

| 2 | 12 | Chip Atooth |

7. Add all foreign keys back to the new model.

```
103
104    alter table xyz_billing add
105             CONSTRAINT fk_xyz_billing_project_id
106                 foreign key (project_id) REFERENCES xyz_projects(project_id),
107             CONSTRAINT fk_xyz_billing_employee_id
108                 foreign key (employee_id) REFERENCES xyz_employees(employee_id),
109             CONSTRAINT fk_xyz_billing_rate_category
110                 foreign key (rate_category) REFERENCES xyz_rates(rate_category)
111    GO
```

Messages

3:54:41 PM   Started executing query at Line 104
              Commands completed successfully.
              Total execution time: 00:00:00.068

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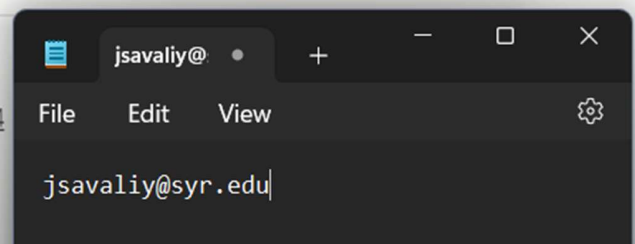
Reflection

Use this section to reflect on your learning. To achieve the highest grade on the assignment you must be as descriptive and personal as possible with your reflection.

1. What are the key things you learned through the process of completing this assignment?
    -> learned about normalization

2. What were the challenges or roadblocks (if any) you encountered on the way to completing it?
    ->got some queries along the way but I was able to solve it.

3. Were you prepared for this assignment? What can you do to be better prepared?
    -> I watched the video and performed the demo.

4. Now that you have completed the assignment rate your comfort level with this week's material. This should be an honest assessment: (choose one)

    4 ==> I understand this material and can explain it to others.