

## TEST CASES

8.) Design and implement database application that manages business processes. Write at least three programs to support business processes listed as the following:

a) A company accepts a new employee...

- i. Upload the person's transcripts and input the course taking information into table Takes;
- ii. Populate table Has\_Skill with more rows derived from the courses this person have taken;
- iii. Verify if this person has every skill required by the given pos\_code;
- iv. If a skill gap is identified, propose a training plan for this person.

This is answered by our "New Employee App" and Query 8.

*The missing knowledge\_skill for pers\_id = 7, pos\_id = 7 is Angular. Company is 1113.*

KS_TITLE
1 Angular

*The missing knowledge\_skill for pers\_id = 11, pos\_id = 15, comp\_id = 1111 is:*

KS_TITLE
1 Java

8b) A person's job hunting; This could be just a user interface for Queries #13 and #14.

This is answered by our "Job Hunting App."

Query 13: Given a person's identifier, list all the job categories that a person is qualified for.

For pers\_id = 7,

CAT_CODE
15-1200
15-1240
14-1200
15-1250

For pers\_id = 12,

CAT_CODE
15-1200
15-1240
15-1254
14-1200
15-1250

Query 14: Given a person's identifier, find the job position with the highest pay rate for this person according to his/her skill possession.

For pers\_id = 7:

FULL_NAME	POS_TITLE	HIGHEST_SALARY
Christopher Eccleston	Networks Analyst	100000

For pers\_id = 1:

FULL_NAME	POS_TITLE	HIGHEST_SALARY
Michael Adamus	Networks Analyst	100000

8c. Case 1) A company finds the best choice of people for a job position with training

- Query #18: "almost qualified" with only 1 missing skill:
  - Expected: pers\_id 8 should only be missing 1 skill for pos\_code: 47 (comp\_id: 1119)

Worksheet Query Builder

```
1 select * from has_skill where pers_id = 8;
```

Query Result x

SQL | All Rows Fetched: 2 in 0.02 seconds

PERS_ID	KS_CODE
1	8 AGILE
2	8 Admin

○

/\*16. When a company cannot find any qualified person for a job position, a secondary solution is to find a person who is almost qualified to the job position. Make a ?missing-one? list that lists people who miss only one skill for a specified pos\_code. +++Double check data, but appears to work. \*/

```
WITH pos_skills AS (
  SELECT ks_code FROM position_skills WHERE pos_code = 47)
SELECT pers_id, COUNT(*) FROM
(SELECT pers_id, ks_code FROM pos_skills, person
MINUS
SELECT pers_id, ks_code FROM has_skill)
GROUP BY pers_id
HAVING COUNT(*) = 1;
```

Query Result x

SQL | All Rows Fetched: 1 in 0.01 seconds

PERS_ID	COUNT(*)
1	8 1

```
select * from position_skills where pos_code = 47;
```

Query Result x

SQL | All Rows Fetched: 3 in 0.011 seconds

KS_CODE	POS_CODE	PREFER
1 Admin	47	R
2 Angular3	47	R
3 AGILE	47	R

```

Welcome to Company Recruiter!
Active positions:
19. Director of Technology
23. Software Architect
24. Quality Assurance Engineer
41. Software Teams Coordinator
42. Networks Analyst
43. Director of Data Analysis
44. Systems Coordinator
45. Networking and Systems Administrator
46. Database Administrator
47. Software Architect
48. Quality Assurance Engineer
47
1. Find qualified people
2. Find almost qualified people
0. Quit
2
Minimum missing skills: 1
Almost Qualified people:
8.Dameron

```

### 8c. Case 2)

Query 15: given a position code, list people who are qualified for this position.

For comp\_id: 1111 and pos\_code 1, the only qualified people should be pers\_id 1: Adamus and pers\_id: 4 Benavides

```

/*15. Given a position code, list all the names along with the emails of the persons who are qualified for this position. */
SELECT (first_name || ' ' || last_name) full_name, email
FROM person p
WHERE NOT EXISTS (
    SELECT ks_code
    FROM position_skills ps
    WHERE pos_code = 1
    MINUS
    SELECT ks_code
    FROM has_skill hs

```

Query Result x

SQL | All Rows Fetched: 2 in 0.011 seconds

FULL_NAME	EMAIL
Michael Adamus	mike_adam@gmail.com
Ricardo Benavides	ricardo.benavides@hotmail.com

```
CompanyRecruiterApp CompanyRecruiterApp New
/Library/Java/JavaVirtualMachines/jdk1.8.0_121
Select company:
1111. General Electric
1112. Lucid
1113. Texaco
1114. Chevron
1115. Harvey Gulf Marine
1116. Edison Chouest
1117. USA Quarry
1118. Exxon
1119. Univision
1120. Childrens Hospital New Orleans
1111
Welcome to Company Recruiter!
Active positions:
1. junior
5. Entry Lev Angular Dev
9. Sr JavaDev
13. Sr JavaDev
56. Entry Level QA
1
1. Find qualified people
2. Find almost qualified people
0. Quit
1
Qualified people:
1.Adamus
4.Benavides
```

ksheet Query Builder

```
select pers_id,
from has_skill
where ks_code = 'Java2';
```

Query Result x

SQL | All Rows Fetched: 2 i

	PERS_ID
1	1
2	4



