

## Employment Agency System Project

The FindAJobMadeEasy Agency has hired you to help design and implement a database so that they can streamline the process of matching job applicants to job postings.

Study the forms provided to identify the data that the agency deals with.

### Part A

Apply the process of Entity Relationship Modeling and the rules of normalization to design a relational database that will effectively store the data, ensuring ease of retrieval and data integrity.

#### Business Rules

- An applicant may apply for more than one type of job on one application.
- An applicant may complete more than one application.
- A company may register more than one job posting with the agency
- The agency stores information about each company it deals with: CompanyID, Company Name, contact person information, address
- The agency hires agents to help process applicant applications and job postings.
- The agency stores information about each agent: ID, name, address, cell phone number, email address, login , password, salary, birthdate, hiredate
- The agency tracks which applicants it recommended for a specific job and if the applicant was interviewed and whether the applicant was hired and for what salary.
- The agency tracks which agent was instrumental in recommending a job application for a specific job posting. Agents that succeed in getting an applicant hired receive 10% of the weekly salary that the applicant will earn on that job.
- If an applicant remains on the job for 6 months after he is hired, the agency receives a finder's fee of one month salary. The agency can bill for this amount if the money hasn't been received.
- The agency can recommend more than one applicant for a specific job
- The agency can recommend an applicant for several job postings.
- The agency allows job applicants to access its job postings but doesn't allow them to see the name of the company or contact information.
- The agency doesn't place applicants who don't have at least one year experience in one skill, namely, the agency doesn't place interns or inexperienced applicants.

### Part B

Using SQL Server implement the database you designed above

Include the following constraints

- Agent: must be at least 18 years old when hired
- Job Applicant: weekly salary preference must be 700 – 9000
- Job: weekly salary preference must be 700- 9000

Part C: Write a query that will address each of these requests

1. For each company, how many job applicants have been placed by the agency at that company
2. For each applicant, list the name of the applicant and the jobs he has applied for and the date of the application related to that job application.
3. For each skill, list the name of the skills and number of years required, the applicant id and name and cell phone number of the applicant that has that many years of that skill
4. For each company, list how many job postings have been received.
5. List the name of the company from which the most job postings have been received.
6. List the name of the applicant who currently has the most skills
7. For each job posting, list the names of the applicants that have some of the skills required by the job
8. For each job posting, list the names of the applicants that have all the skills required by the job
9. For each applicant, list the job posting ID of each job for which he has some of the skills.
10. List the name of each applicant that has been hired
11. Which applicant has indicated the highest salary requirement
12. List the names of each full-time job that has been posted and not yet filled
13. For each job posting, list the number of skills that are required for the job posting
14. List each job posted and the date it was posted of all jobs posted during the year 2018.
15. For each job posted in year 2018, list the name of each applicant that has been recommended for the job.
16. List each job posting whose annual salary is between 30000 – 70000
17. For a specific applicants, list each job posting whose salary meets the applicant's salary requirement
18. List the name of each company that currently has a job posted for a programmer that hasn't been filled

Job Applicant Application Form Samples

FindAJobMadeEasy Agency  
Job Application

Date: 2/20/2017

Name: John Smith  
Address: 15 Park Place Brooklyn NY  
Email Address: jsmith@gmail.com  
Phone Number: 347 489 9200

**Job Type:**

- ☐ Accountant  
☒ DBA  
☐ Secretarial  
☐ Financial Analyst  
☐ Programmer  
☐ Clerical

**Preferred Weekly Salary:** 1200.00

**Degrees**

Type of Degree	Concentration	Date Received	Institution
MS	Database Administration	6/17/2016	Touro College
BA	Mathematics	5/15/2010	Baruch College

**Work Experience**

Job Title	Years Employed	Company
Financial Analyst	2011 - 2014	NY Life Insurance Co
Data Analyst	2015 - 2016	Guardian Life

**Skills                      Years Experience**

SQL	3
MySQL	3
Java	1
Access	2

**(For Office Use Only)**

**Applicant ID:**

**Was Hired:** ☐ Yes    ☐ No

FindAJobMadeEasy Agency

Job Posting Form

**Job Posting ID:** JP999

**Date Posted:** 10/04/2018

**Date Filled:**

**Company Information:**

Company Name: Business Solutions.

Address: 1 Main Street NYC, NY

Contact Name: Joe Henderson

Email Address: joe@businesssol.com

Phone Number: (212) 240-1234

**Job Information:**

Job Title: Accountant

Location: 1 Main Street NYC, NY

Duration: ☒ Full Time ☐ Part Time

Years of Experience: 3

Weekly Salary Range: \$1000 - \$1500

**Required Skills:                      Years Experience**

Corporate Accounting	3
Business Law	1
Excel	3
SAGE	1
QuickBooks	2

**Required Languages:                      Years Experience**


**Required Degrees:**

Bachelor of Science
CPA

**Notes:**

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FindAJobMadeEasy Agency

Job Posting Form

**Job Posting ID:** JP1000

**Date Posted:** 10/05/2018

**Date Filled:**

**Company Information:**

Company Name: Creative Solutions Inc.

Address: 1 Mark Way Marktown NY

Contact Name: Linda Marks

Email Address: linda@creative.com

Phone Number: (646) 999-1212

**Job Information:**

Job Title: Programmer

Location: 1 Mark Way Marktown NY

Duration: ☒ Full Time ☐ Part Time

Years of Experience: 2

Weekly Salary Range: 1200 - 1500

**Required Skills:                      Years Experience**

Programming	2
Analysis	2

**Required Languages:                      Years Experience**

C#	2
ASP.NET	2

**Required Degrees:**

Bachelor of Science
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**Notes:**

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