

CSC 451: DatabaseS For LaRGE-SCALE ANALYTICS

ASSIGNMENT # 3

Use ORACLE on your CDM account to perform the following:

1. Create the following tables from SPJ.sql on the D2L Resources page:

**Suppliers (SupplierNo, Name, Status, City)**

**Parts (PartNo, Name, Color, Weight, City)**

**Projects (ProjectNo, Name, City)**

**SPJ (SupplierNo, PartNo, ProjectNo, Quantity)**

Here is the data for reference:

|  |  |  |  |
| --- | --- | --- | --- |
| **SupplierNo** | **Name** | **Status** | **City** |
| S1 | SMITH | 20 | LONDON |
| S2 | JONES | 10 | PARIS |
| S3 | BLAKE | 30 | PARIS |
| S4 | CLARK | 20 | LONDON |
| S5 | ADAMS | 30 | ATHENS |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PartNo** | **Name** | **Color** | **Weight** | **City** |
| P1 | NUT | RED | 12 | LONDON |
| P2 | BOLT | GREEN | 17 | PARIS |
| P3 | SCREW | BLUE | 17 | ROME |
| P4 | SCREW | RED | 14 | LONDON |
| P5 | CAMERA | BLUE | 32 | PARIS |
| P6 | WRENCH | RED | 19 | LONDON |
| P7 | C-O-G | GREEN | 12 | ROME |

|  |  |  |
| --- | --- | --- |
| **ProjectNo** | **Name** | **City** |
| J1 | SORTER | PARIS |
| J2 | PUNCH | ROME |
| J3 | READER | ATHENS |
| J4 | CONSOLE | ATHENS |
| J5 | COLLATOR | LONDON |
| J6 | TERMINAL | OSLO |
| J7 | TAPE | LONDON |
| J8 | DRUM | LONDON |

|  |  |  |  |
| --- | --- | --- | --- |
| **SupplierNo** | **PartNo** | **ProjectNo** | Quantity |
| S1 | P1 | J1 | 200 |
| S1 | P1 | J4 | 700 |
| S1 | P3 | J1 | 450 |
| S1 | P3 | J2 | 210 |
| S1 | P3 | J3 | 700 |
| S2 | P3 | J4 | 509 |
| S2 | P3 | J5 | 600 |
| S2 | P3 | J6 | 400 |
| S2 | P3 | J7 | 812 |
| S3 | P5 | J6 | 750 |
| S3 | P3 | J2 | 215 |
| S3 | P4 | J1 | 512 |
| S3 | P6 | J2 | 313 |
| S4 | P6 | J3 | 314 |
| S4 | P2 | J6 | 250 |
| S4 | P5 | J5 | 179 |
| S4 | P5 | J2 | 513 |
| S5 | P7 | J4 | 145 |
| S5 | P1 | J5 | 269 |
| S5 | P3 | J7 | 874 |
| S5 | P4 | J4 | 476 |
| S5 | P5 | J4 | 529 |
| S5 | P6 | J4 | 318 |
| S5 | P2 | J4 | 619 |

1. Create necessary SQL queries that answer **EIGHT** of the given queries, to be selected as follows:
   * 3 from Part-1 (Easy)
   * 4 from Part-2 (Moderate)
   * 1 from Part-3 (challenging)

If any of the queries, that you selected, does not return any results, then you are required to add the necessary records to your tables (or modify some of the existing ones) to show that the query works. You may use ONLY the SQL operators that we discussed, and you are NOT allowed to use views to answer the queries.

###### Queries

Part-1

1. Get full part-details of all parts that are shipped to any project in LONDON.
2. Get supplier names for suppliers who shipped any part to the COLLATOR project.
3. Get all pairs of city names such that a supplier in the first city ships to a project in the second city.
4. Get supplier name, part name, and project name triples such that the indicated supplier, part and project are all co-located (in the same city).
5. Get part names for parts located in London and shipped to any project in LONDON.

Part-2

1. Get the supplier names for suppliers who did not ship any parts to any project in LONDON.
2. Get the supplier names of suppliers who only shipped parts that weigh less than 15 oz.
3. Get all the colors that are not shipped by the supplier S1.
4. Get the supplier names for the suppliers who did not ship any part that is green.
5. Get part numbers for parts that were shipped by a supplier in LONDON and that supplier ships only to projects that are located in LONDON.
6. Get project names for projects that were sent shipments by both suppliers S1 and S2.
7. Get project names for projects that were not sent any shipments either supplier S1 or S2.

Part-3

1. Get project names for projects using at least two parts from supplier S1.
2. Get part names for parts shipped by at least 2 different suppliers in LONDON.
3. Get the names of suppliers who shipped the part with maximum weight (compared to all other parts).
4. Get the suppliers details for suppliers who supplied parts to only one project.
5. Submit a document that shows:
   * The structure and contents of your tables
   * For each of the queries you choose:
     1. Re-state the query you are about to answer
     2. List the SQL statement that answers the query
     3. The result of running your query