Relational Database Project

Part 6: Query Creation

Contents

[Problem Statement (Part6) 3](#_Toc532477868)

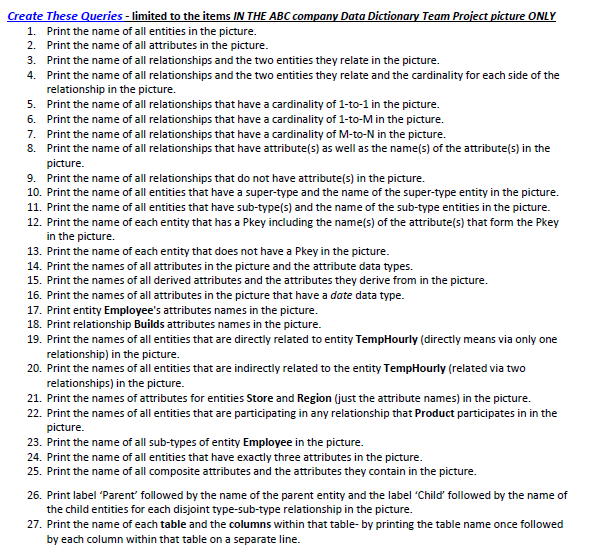
[Analysis (Part6) 4](#_Toc532477869)

[Results (See “Part3,4,6 (Rev1).sql” to view the sql code) 32](#_Toc532477870)

[Redone Analysis Part6 (Changes in going from Rev1 to Rev2) 34](#_Toc532477872)

[Redone Results Part6 (See “Part3,4,6 (Rev2).sql” to view the sql code) 36](#_Toc532477873)

# Problem Statement (Part6)



# Analysis (Part6)

|  |  |
| --- | --- |
|  | Shows all of the (Entities, Attributes and Conditions) extracted from the instructional sentences |

|  |  |
| --- | --- |
| Instruction | 1. Print the name of all entities in the ABC Diagram. |
| Entities | All Entities |
| Attributes | EntityName |
| Conditions | NA |
| SQL Query Output |  |

|  |  |
| --- | --- |
| Instruction | 2. Print the name of all attributes in the ABC Diagram. |
| Entities | AllAttributes |
| Attributes | AttributeName |
| Conditions | NA |
| SQL Query Output |  |

MISSING Name from the Query Results

|  |  |
| --- | --- |
| Instruction | 3. Print the name of all relationships and the two entities they relate in the ABC Diagram. |
| Entities | AllRelationships |
| Attributes | RelationshipName,LSideEntityName,RsideEntityName |
| Conditions | NA |
| SQL Query Output |  |

MISSING ISA D’s from the Query Results

|  |  |
| --- | --- |
| Instruction | 4. Print the name of all relationships and the two entities they relate and the cardinality for each side of the relationship in the ABC Diagram. |
| Entities | AllRelationships |
| Attributes | RelationshipName, LsideEntityName, LsideEntityCardinality, RsideEntityName, RsideEntity Cardinality |
| Conditions | NA |
| SQL Query Output |  |

MISSING ISA D’s from the Query Results

|  |  |
| --- | --- |
| Instruction | 5. Print the name of all relationships that have a cardinality of 1-to-1 in the ABC Diagram. |
| Entities | AllRelationships |
| Attributes | RelationshipName, L LsideEntityCardinality, RsideEntityCardinality |
| Conditions | LSideEntityCardinality = ‘1’ AND RSideEntityCardinality = ‘1’ |
| SQL Query Output |  |

Missing ISA D’s from query results

|  |  |
| --- | --- |
| Instruction | 6. Print the name of all relationships that have a cardinality of 1-to-M in the ABC Diagram. |
| Entities | AllRelationships |
| Attributes | RelationshipName, L LsideEntityCardinality, RsideEntityCardinality |
| Conditions | LsideEntityCardinality = ‘1’ AND RsideEntityCardinality = ‘M’ |
| SQL Query Output |  |

MISSING Worksin from the Query Results

|  |  |
| --- | --- |
| Instruction | 7. Print the name of all relationships that have a cardinality of M-to-N in the ABC Diagram. |
| Entities | AllRelationships |
| Attributes | RelationshipName, L LsideEntityCardinality, RsideEntityCardinality |
| Conditions | LsideEntityCardinality = ‘M’ AND RsideEntityCardinality = N’ |
| SQL Query Output |  |

MISSING builds & stocks from the Query Results

|  |  |
| --- | --- |
| Instruction | 8. Print the name of all relationships that have attribute(s) as well as the name(s) of the attribute(s) in the ABC Diagram. |
| Entities | AllRelationships\_Has\_RelationshipAttributes |
| Attributes | RelationshipName, AttributeName |
| Conditions | NA |
| SQL Query Output | Error in Part 3’s Code made the query not show data      Troubleshooting    Updated Part 3’s Code to make the Query show the data    Updated Part4’s Code to make the Query show the data    Executing Part 3’s updated code to show the working query |
| Instruction | 9. Print the name of all relationships that do not have attribute(s) in the ABC Diagram. |
| Entiites | AllRelationships |
| Attributes | RelationshipName |
| Condition | RelationshipName != Builds |
| SQL Query Output |  |

MISSING ISA D’s from the Query Results

|  |  |
| --- | --- |
| Instruction | 10. Print the name of all entities that have a super-type and the name of the super-type entity in the ABC Diagram. |
| Entities | Inheritance |
| Attributes | Superclass\_EntityName |
| Conditions | NA |
| SQL Query Output |  |

REFORMAT to have a 2 column (Parent, Child) to make it easier to interpret the query results

|  |  |
| --- | --- |
| Instruction | 11. Print the name of all entities that have sub-type(s) and the name of the sub-type entities in the ABC Diagram. |
| Entities | Inheritance |
| Attributes | Subclass\_EntityName |
| Conditions | NA |
| SQL Query Output |  |
| Instruction | 12. Print the name of each entity that has a Pkey including the name(s) of the attribute(s) that form the Pkey in the ABC Diagram. |
| Entities | AllEntities\_Has\_AllKeys |
| Attributes | EntityName, AttributeName |
| Conditions | NA |
| SQL Query Output |  |

|  |  |
| --- | --- |
| Instruction | 13. Print the name of each entity that does not have a Pkey in the ABC Diagram. |
| Entities | AllEntities, AllEntities\_Has\_AllKeys |
| Attributes | EntityName |
| Conditions | NA |
| SQL Query Output |  |

|  |  |
| --- | --- |
| Instruction | 14. Print the names of all attributes in the picture and the attribute data types in the ABC Diagram. |
| Entities | AllAttributes,DataType |
| Attributes | AttributeName, DataType |
| Conditions | NA |
| SQL Query Output |  |

MISSING Name from the Query Results

|  |  |
| --- | --- |
| Instruction | 15. Print the names of all derived attributes and the attributes they derive from in the ABC Diagram. |
| Entities | All Attributes |
| Attributes | AttributeName |
| Conditions | AttributeName = ‘DOB’ OR AttributeName = ‘Age’ |
|  |  |

Incorrect Format to illustrate “Age is derived from DOB”

|  |  |
| --- | --- |
| Instruction | 16. Print the names of all attributes in the picture that have a *date* data type in the ABC Diagram. |
| Entities | AllAttributes |
| Attributes | AttributeName, DataType |
| Conditions | DataType = ’Date’ |
| SQL Query Output |  |

MISSING Date related attributes such as DOB, StartDate, EndDate

|  |  |
| --- | --- |
| Instruction | 17. Print entity Employee's attributes names in the ABC Diagram. |
| Entities | AllEntities\_Has\_AllAttributes |
| Attributes | EntityName,AttributeName |
| Conditions | EntityName = ‘Employee’ |
| SQL Query | Error in Part 3’s Code made the query not show data      Troubleshooting    Updated Part 3’s Code to make the Query show the data    Executing Part 3’s updated code to show the working query |

MISSING name & Address from the Query Results

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| --- | --- |
| Instruction | 18. Print relationship Builds attributes names in the ABC Diagram. |
| Entities | AllRelationships\_Has\_RelationshipAttributes |
| Attributes | AttributeName |
| Conditions | RelationshipName = ‘Builds’ |
| SQL Query |  |

|  |  |
| --- | --- |
| Instruction | 19. Print the names of all entities that are directly related to entity TempHourly(directly means via only one relationship) in the ABC Diagram. |
| Entities | AllRelationships |
| Attributes | LSideEntityName, RSideEntityName |
| Conditions | LsideEntityName = ‘TempHourly’ ; RSideEntityName = ‘TempHourly’ |
| SQL Query Output |  |

MISSING Employee and Contractor

|  |  |
| --- | --- |
| Instruction | 20. Print the names of all entities that are indirectly related to the entity TempHourly(related via two relationships) in the ABC Diagram. |
| Entities | AllRelationships |
| Attributes | LSideEntityName, RSideEntityName |
| Conditions | RelationshipName = ‘Contains’  RelationshipName = ‘Schedules’  RelationshipName = ‘Designs’ |
| Indirect Associations | Temp Hourly > Stock > Display > contains > Product  TempHourly > Builds > Display > Schedules > Associate  TempHourly > Builds > Display > Design > Contractor |
| SQL Query Output |  |

MISSING Promotion & Region for the Query Results which are indirectly linked to TempHourly

REMOVE Contractor and Display as they are directly linked to TempHourly

|  |  |
| --- | --- |
| Instruction | 21. Print the names of attributes for entities Store and Region(just the attribute names) in the ABC Diagram. |
| Entities | AllEntities\_Has\_AllAttributes |
| Attributes | AttributeName |
| Conditions | EntityName = ‘Store’ ; EntityName = ‘Region’ |
| SQL Query Output |  |

|  |  |
| --- | --- |
| Instruction | 22. Print the names of all entities that are participating in any relationship that Product participates in in the ABC Diagram. |
| Entities | AllRelationships |
| Attributes | LSideEntityName |
| Conditions | RSideEntityName = ‘Product’ |
|  |  |

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| --- | --- |
| Instruction | 23. Print the name of all sub-types of entity Employeein the ABC Diagram. |
| Entities | Inheritance |
| Attributes | SubClass\_EntityName |
| Conditions | SuperClass\_EntityName = ‘Employee’ |
| SQL Query Output |  |

MISSING Contractor because Contractor is a subclass of the Employee entity

|  |  |
| --- | --- |
| Instruction | 24. Print the name of all entities that have exactly three attributes in the ABC Diagram. |
| Entities | AllEntities\_Has\_AllAttributes |
| Attributes | EntityName |
| Conditions | Count(AttributeName)=3 |
| SQL Query |  |

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| --- | --- |
| Instruction | 25. Print the name of all composite attributes and the attributes they contain in the ABC Diagram. |
| SQL Query | Created a new table (Part3 update) to make the query work    Created new inserts for loading table (Part 4 update) to make the query work    Executing Part 6’s SQL code to show the working query |

MISSING Name & Address from the Query Results

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| Instruction | 26. Print label ‘Parent’ followed by the name of the parent entity and the label ‘Child’ followed by the name of the child entities for each disjoint type-sub-type relationship in the ABC Diagram. |
| Entities | Inheritance |
| Attributes | SuperClass\_EntityName, SubClass\_EntityName |
| Conditions | SuperClass\_EntityName AS Parent ; SubClass\_EntityName AS Child |
| SQL Query |  |

|  |  |
| --- | --- |
| Instruction | 27. Print the name of each table and the columns within that table- by printing the table name once followed by each column within that table on a separate line in the ABC Diagram. |
| Entities | All Entities |
| Attributes | All Attributes |
| Conditions | NA |
| SQL Query | Incorrect format; Redo Query; Table name should only be displayed once per all the columns |