# Reading Rainbow Database Analysis

CREATE DATABASE Reading\_Rainbow\_Bookstore;

USE Reading\_Rainbow\_Bookstore;

Create Table Branch (

BRANCH\_NUM Int Primary Key,

BRANCH\_NAME Varchar(50),

BRANCH\_LOCATION Varchar(100),

NUM\_EMPLOYEES Int

);

INSERT INTO Branch VALUES

(1, 'Books Downtown', '487 E 5th Street', 10),

(2, 'Books On The Hill', '7783 Ridgewood Drive', 8),

(3, 'Books On The Eastshore', '25224 Lake Shore Blvd', 20),

(4, 'Books In Brooklyn', '2159 Fulton Road', 15);

Create Table Publisher (

PUB\_CODE Varchar(10) Primary Key,

PUB\_NAME Varchar(50),

PUB\_CITY Varchar(50)

);

INSERT INTO PUBLISHER VALUES

('AH', 'Arkham House', 'Sauk City WI'),

('AP', 'Arcade Publishing', 'New York'),

('BA', 'Basic Books', 'Boulder CO'),

('BP', 'Berkeley Publishing', 'Boston'),

('BY', 'Back Bay Books', 'New York'),

('CT', 'Course Technology', 'Boston'),

('FA', 'Fawcett Books', 'New York'),

('FS', 'Farrar Straus & Giroux', 'New York'),

('HC', 'HarperCollins Publishers', 'New York'),

('JP', 'Jove Publications', 'New York'),

('JT', 'Jeremy P. Tarcher', 'Los Angeles'),

('LB', 'Lb Books', 'New York'),

('MP', 'McPherson & Co.', 'Kingston'),

('PE', 'Penguin USA', 'New York'),

('PL', 'Plume', 'New York'),

('PU', 'Putnam Publishing Company', 'New York'),

('RH', 'Random House', 'New York'),

('SB', 'Schoken Books', 'New York'),

('SC', 'Scribner', 'New York'),

('SS', 'Simon & Schuster', 'New York'),

('ST', 'Scholastic Trade', 'New York'),

('TA', 'Taunton Press', 'Newtown CT'),

('TB', 'Tor Books', 'New York'),

('TH', 'Thames and Hudson', 'New York'),

('TO', 'Touchstone Books', 'Westport CT'),

('VB', 'Vintage Books', 'New York'),

('WN', 'W.W. Norton', 'New York'),

('WP', 'Westview Press', 'Boulder CO');

Create Table Book (

BOOK\_CODE Varchar(10) PRIMARY KEY,

TITLE Varchar(100),

PUB\_CODE Varchar(10) Foreign Key References Publisher(PUB\_CODE),

BOOK\_GENRE Varchar(10),

PRICE Decimal(10, 2),

PAPERBACK Varchar(3)

);

INSERT INTO BOOK VALUES

('0180', 'A Deepness in the Sky', 'TB', 'SFI', 10.99, 'Yes'),

('0189', 'Magic Terror', 'FA', 'HOR', 9.99, 'Yes'),

('0200', 'The Stranger', 'VB', 'FIC', 11.99, 'Yes'),

('0378', 'Venice', 'SS', 'ART', 29.99, 'No'),

('079X', 'Second Wind', 'PU', 'MYS', 27.95, 'No'),

('0808', 'The Edge', 'JP', 'MYS', 9.99, 'Yes'),

('1351', 'Dreamcatcher: A Novel', 'SC', 'HOR', 25.99, 'No'),

('1382', 'Treasure Chests', 'TA', 'ART', 29.99, 'No'),

('138X', 'Beloved', 'PL', 'FIC', 17.95, 'Yes'),

('2226', 'Harry Potter and the Prisoner of Azkaban', 'ST', 'SFI', 19.95, 'No'),

('2281', 'Van Gogh and Gauguin', 'WP', 'ART', 29.95, 'No'),

('2766', 'Of Mice and Men', 'PE', 'FIC', 11.99, 'Yes'),

('2908', 'Electric Light', 'FS', 'POE', 19.00, 'No'),

('3350', 'Group: Six People in Search of Life', 'BP', 'PSY', 12.99, 'Yes'),

('3743', 'Nine Stories', 'LB', 'FIC', 9.99, 'Yes'),

('3906', 'The Soul of a New Machine', 'BY', 'SCI', 17.95, 'Yes'),

('5163', 'Travels with Charley', 'PE', 'TRA', 10.95, 'Yes'),

('5790', 'Catch-22', 'SC', 'FIC', 17.95, 'Yes'),

('6128', 'Jazz', 'PL', 'FIC', 19.99, 'Yes'),

('6328', 'Band of Brothers', 'TO', 'HIS', 17.99, 'Yes'),

('669X', 'A Guide to SQL', 'CT', 'CMP', 44.95, 'Yes'),

('6908', 'Franny and Zooey', 'LB', 'FIC', 9.99, 'Yes'),

('7405', 'East of Eden', 'PE', 'FIC', 15.95, 'No'),

('7443', 'Harry Potter and the Goblet of Fire', 'ST', 'SFI', 27.95, 'Yes'),

('7559', 'The Fall', 'VB', 'FIC', 12.95, 'Yes'),

('8092', 'Godel, Escher, Bach', 'BA', 'PHI', 19.99, 'Yes'),

('8720', 'When Rabbit Howls', 'JP', 'PSY', 9.99, 'Yes'),

('9611', 'Black House', 'RH', 'HOR', 24.95, 'No'),

('9627', 'Song of Solomon', 'PL', 'FIC', 19.99, 'Yes'),

('9701', 'The Grapes of Wrath', 'PE', 'FIC', 19.95, 'Yes'),

('9882', 'Slay Ride', 'JP', 'MYS', 9.95, 'Yes'),

('9883', 'The Catcher in the Rye', 'LB', 'FIC', 10.99, 'Yes'),

('9931', 'To Kill a Mockingbird', 'HC', 'FIC', 27.95, 'No');

Create Table Author (

AUTHOR\_NUM Int PRIMARY KEY,

LAST\_NAME Varchar(50),

FIRST\_NAME Varchar(50)

);

INSERT INTO AUTHOR VALUES

(1, 'Morrison', 'Toni'),

(2, 'Solotaroff', 'Paul'),

(3, 'Vintage', 'Vernor'),

(4, 'Francis', 'Dick'),

(5, 'Straub', 'Peter'),

(6, 'King', 'Stephen'),

(7, 'Pratt', 'Philip'),

(8, 'Chase', 'Truddi'),

(9, 'Collins', 'Bradley'),

(10, 'Heller', 'Joseph'),

(11, 'Wills', 'Gary'),

(12, 'Hofstadter', 'Douglas R.'),

(13, 'Lee', 'Harper'),

(14, 'Ambrose', 'Stephen E.'),

(15, 'Rowling', 'J.K.'),

(16, 'Salinger', 'J.D.'),

(17, 'Heaney', 'Seamus'),

(18, 'Camus', 'Albert'),

(19, 'Collins, Jr.', 'Bradley'),

(20, 'Steinbeck', 'John'),

(21, 'Castelman', 'Riva'),

(22, 'Owen', 'Barbara'),

(23, 'O''Rourke', 'Randy'),

(24, 'Kiddler', 'Tracy'),

(25, 'Scheining', 'Lon');

CREATE TABLE Wrote (

BOOK\_CODE VARCHAR(10) NOT NULL,

AUTHOR\_NUM INT NOT NULL,

SEQUENCE INT NOT NULL,

PRIMARY KEY (BOOK\_CODE, AUTHOR\_NUM),

FOREIGN KEY (BOOK\_CODE) REFERENCES Book(BOOK\_CODE),

FOREIGN KEY (AUTHOR\_NUM) REFERENCES Author(AUTHOR\_NUM)

);

INSERT INTO WROTE VALUES

('0180', 3, 1), ('0189', 5, 1), ('0200', 18, 1), ('0378', 11, 1),

('079X', 4, 1), ('0808', 4, 1), ('1351', 6, 1), ('1382', 23, 2),

('1382', 25,1), ('138X', 1, 1), ('2226', 15, 1), ('2281', 9, 2),

('2281', 19,1), ('2766', 20,1), ('2908', 17, 1), ('3350', 2, 1),

('3743', 16,1), ('3906', 24,1), ('5163', 20, 1), ('5790', 10, 1),

('6128', 1, 1), ('6328', 14,1), ('669x', 7, 1), ('6908', 16, 1),

('7405', 20,1), ('7443', 15,1), ('7559', 18, 1), ('8092', 12, 1),

('8720', 8, 1), ('9611', 5, 2), ('9611', 6, 1), ('9627', 1, 1),

('9701', 20,1), ('9882', 4, 1), ('9883', 16, 1), ('9931', 13, 1);

Create Table Inventory (

BOOK\_CODE Varchar(10) Foreign Key References Book(BOOK\_CODE),

BRANCH\_NUM INT Foreign Key References Branch(BRANCH\_NUM),

ON\_HAND Int,

Primary Key (BOOK\_CODE, BRANCH\_NUM)

);

INSERT INTO INVENTORY VALUES

('5163', 1, 1), ('5790', 4, 2), ('6128', 2, 4), ('6128', 3, 3), ('6328', 2, 2),

('669X', 1, 1), ('6908', 2, 2), ('7405', 3, 2), ('7443', 4, 1), ('7559', 2, 2),

('8092', 3, 1), ('8720', 1, 3), ('9611', 1, 2), ('9627', 3, 5), ('9627', 4, 2),

('9701', 1, 2), ('9701', 2, 1), ('9701', 3, 3), ('9701', 4, 2), ('9882', 3, 3),

('9883', 2, 3), ('9883', 4, 2), ('9931', 1, 2);

Create Table Sales (

SALE\_ID Int Primary Key,

BRANCH\_NUM Int Foreign Key References Branch(BRANCH\_NUM),

BOOK\_CODE Varchar(10) Foreign Key References Book(BOOK\_CODE),

SALE\_DATE Date,

SALE\_PRICE Decimal(10, 2)

);

INSERT INTO Sales VALUES

(1, 1, '0180', '2024-12-01', 10.99),

(2, 2, '0189', '2024-12-02', 9.99),

(3, 3, '0200', '2024-12-03', 11.99),

(4, 1, '0378', '2024-12-04', 29.99),

(5, 2, '079X', '2024-12-05', 27.95),

(6, 3, '0808', '2024-12-06', 9.99),

(7, 4, '1351', '2024-12-07', 25.99),

(8, 1, '1382', '2024-12-08', 29.99),

(9, 4, '2226', '2024-12-09', 19.95),

(10, 2, '2766', '2024-12-10', 11.99);

SELECT \*

FROM Book

INNER JOIN Wrote ON Book.BOOK\_CODE = Wrote.BOOK\_CODE

ORDER BY PRICE DESC;

SELECT W.BOOK\_CODE, W.AUTHOR\_NUM

FROM Wrote AS W

LEFT JOIN Author AS A ON W.AUTHOR\_NUM = A.AUTHOR\_NUM

WHERE W.AUTHOR\_NUM >= 21;

SELECT Branch.BRANCH\_NUM, Branch.BRANCH\_NAME, Branch.BRANCH\_LOCATION, Inventory.BOOK\_CODE

FROM Inventory

RIGHT JOIN Branch ON Inventory.BRANCH\_NUM = Branch.BRANCH\_NUM

ORDER BY Inventory.BOOK\_CODE ASC;

SELECT Book.BOOK\_CODE, Book.TITLE, Book.BOOK\_GENRE, Book.PRICE, Wrote.AUTHOR\_NUM, Inventory.ON\_HAND

FROM Book

INNER JOIN Wrote ON Book.BOOK\_CODE = Wrote.BOOK\_CODE

INNER JOIN Inventory ON Book.BOOK\_CODE = Inventory.BOOK\_CODE;

Create Table Branch\_Expansion (

BRANCH\_NUM Int Primary Key,

BRANCH\_NAME Varchar(50),

BRANCH\_LOCATION Varchar(100),

NUM\_EMPLOYEES Int

);

INSERT INTO Branch\_Expansion VALUES

(5, 'Books In Bay Village', '25619 Lake Road', 6),

(6, 'Books In Westlake', '1876 Crocker Drive', 9),

(7, 'Books In The CLE', '18521 E 185th Street', 14),

(8, 'Books In The Valley', '3885 Brittain Road', 8);

Select \* From Branch

Where NUM\_EMPLOYEES > 8

Union

Select \* From Branch\_Expansion

Where NUM\_EMPLOYEES > 8;

DROP TABLE Branch\_Expansion;

INSERT INTO Branch

VALUES (5, 'Books In Bay Village', '25619 Lake Road', 6),

(6, 'Books In Westlake', '1876 Crocker Drive', 9),

(7, 'Books In The CLE', '18521 E 185th Street', 14),

(8, 'Books In The Valley', '3885 Brittain Road', 8);

Select \* From Branch

Order By NUM\_EMPLOYEES Desc;

Create Table Branch\_Employees (

EMPLOYEE\_ID Int Primary Key,

LAST\_NAME Varchar(50),

FIRST\_NAME Varchar(50),

JOB\_CODE Varchar(10),

JOB\_TYPE Varchar(10),

HOURLY\_WAGE Decimal(10, 2),

BRANCH\_NUM Int Foreign Key References Branch(BRANCH\_NUM)

);

INSERT INTO Branch\_Employees VALUES

(10101, 'Swift', 'Taylor', 'PT', 'Hourly', 15.00, 8),

(10102, 'Evans', 'Faith', 'PT', 'Hourly', 15.00, 6),

(10103, 'Minogue', 'Kylie', 'FT', 'Salary', 0.00, 5),

(10104, 'Schumann', 'Clara', 'SE', 'Hourly', 12.50, 2),

(10105, 'Gow', 'Nathaniel', 'SE', 'Hourly', 12.50, 7),

(10106, 'Porter', 'Cole', 'SE', 'Hourly', 12.50, 1),

(10107, 'Furnier', 'Vincent', 'PT', 'Hourly', 15.00, 3),

(10108, 'Mizell', 'Jason', 'PT', 'Hourly', 15.00, 3),

(10109, 'Washington', 'Aaliyah', 'FT', 'Salary', 0.00, 8),

(10110, 'Jones', 'Norah', 'FT', 'Salary', 0.00, 2),

(10111, 'Grande', 'Ariana', 'PT', 'Hourly', 15.00, 7),

(10112, 'Kennedy', 'Dermot', 'FT', 'Salary', 0.00, 1),

(10113, 'Bennett', 'Declan', 'PT', 'Hourly', 15.00, 8),

(10114, 'Born', 'Claire', 'SE', 'Hourly', 12.50, 6),

(10115, 'Naidoo', 'Xavier', 'SE', 'Hourly', 12.50, 1),

(10116, 'Yauch', 'Adam', 'SE', 'Hourly', 12.50, 6),

(10117, 'Fisher', 'Jordan', 'SE', 'Hourly', 12.50, 7),

(10118, 'Gallagher', 'Noel', 'PT', 'Hourly', 15.00, 1),

(10119, 'Post', 'Austin', 'SE', 'Hourly', 12.50, 3),

(10120, 'Harrison', 'Dominic', 'SE', 'Hourly', 12.50, 2),

(10121, 'Hooper', 'Nicholas', 'SE', 'Hourly', 12.50, 7),

(10122, 'VanWinkle', 'Robert', 'PT', 'Hourly', 15.00, 8),

(10123, 'Davis', 'Miles', 'FT', 'Salary', 0.00, 6),

(10124, 'Clarke', 'Jeremiah', 'FT', 'Salary', 0.00, 1),

(10125, 'Thomaz', 'Cameron', 'SE', 'Hourly', 12.50, 7),

(10126, 'Copland', 'Aaron', 'PT', 'Hourly', 15.00, 5),

(10127, 'King', 'Riley', 'FT', 'Salary', 0.00, 4),

(10128, 'Jones', 'Grace', 'SE', 'Hourly', 12.50, 2),

(10129, 'Mingus', 'Charles', 'SE', 'Hourly', 12.50, 8),

(10130, 'Pentz', 'Thomas', 'SE', 'Hourly', 12.50, 6),

(10131, 'Webber', 'Andrew', 'SE', 'Hourly', 12.50, 7),

(10132, 'Wallace', 'Christopher', 'PT', 'Hourly', 15.00, 1),

(10133, 'Keidis', 'Anthony', 'PT', 'Hourly', 15.00, 1),

(10134, 'Faure', 'Gabriel', 'FT', 'Salary', 0.00, 8),

(10135, 'Fitzgerald', 'Ella', 'FT ', 'Salary', 0.00, 6),

(10136, 'Albeniz', 'Isaac', 'PT', 'Hourly', 15.00, 5),

(10137, 'Burwell', 'Carter', 'SE', 'Hourly', 12.50, 2),

(10138, 'Gillespie', 'John', 'SE', 'Hourly', 12.50, 7),

(10139, 'Gray', 'David', 'SE', 'Hourly', '12.50', 3),

(10140, 'Simmons', 'Joseph', 'PT', 'Hourly', 15.00, 2),

(10141, 'Bellamy', 'Matthew', 'PT', 'Hourly', 15.00, 1),

(10142, 'Barber', 'Samuel', 'SE', 'Hourly', 12.50, 5),

(10143, 'White', 'Jack', 'SE', 'Hourly', 12.50, 7),

(10144, 'Brown', 'Jackson', 'SE', 'Hourly', 12.50, 2),

(10145, 'Stipe', 'Michael', 'PT', 'Hourly', 15.00, 1),

(10146, 'Mancini', 'Henry', 'PT', 'Hourly', 15.00, 6),

(10147, 'Brorodin', 'Alexander', 'SE', 'Hourly', 12.50, 3),

(10148, 'Brown', 'James', 'FT', 'Salary', 0.00, 7),

(10149, 'Robinson', 'William', 'SE', 'Hourly', 12.50, 1),

(10150, 'Dragojevic', 'Oliver', 'SE', 'Hourly', 12.50, 5),

(10151, 'Maxx', 'Amanda', 'PT', 'Hourly', 15.00, 7),

(10152, 'Newton-John', 'Olivia', 'FT', 'Salary', 0.00, 4),

(10153, 'Gallagher', 'Liam', 'FT', 'Salary', 0.00, 4),

(10154, 'Corrs', 'Andrea', 'FT', 'Salary', 0.00, 3),

(10155, 'McGlachlan', 'Sarah', 'PT', 'Hourly', 15.00, 2),

(10156, 'Morissette', 'Alanis', 'PT', 'Hourly', 15.00, 6),

(10157, 'Hewson', 'Paul', 'FT', 'Salary', 0.00, 7),

(10158, 'Evans', 'David', 'PT', 'Hourly', 15.00, 3),

(10159, 'Mullen', 'Larry', 'SE', 'Hourly', 12.50, 7),

(10160, 'Clayton', 'Adam', 'SE', 'Hourly', 12.50, 5),

(10161, 'Martin', 'Christopher', 'SE', 'Hourly', 12.50, 6),

(10162, 'Champion', 'Will', 'PT', 'Hourly', 15.00, 7),

(10163, 'Carey', 'Mariah', 'SE', 'Hourly', 12.50, 4),

(10164, 'Buckley', 'Jeff', 'PT', 'Hourly', 15.00, 4),

(10165, 'Amos', 'Tori', 'PT', 'Hourly', 15.00, 4),

(10166, 'Harvey', 'PJ', 'FT', 'Salary', 0.00, 3),

(10167, 'Matthews', 'Dave', 'FT', 'Salary', 0.00, 3),

(10168, 'Young', 'Neil', 'PT', 'Hourly', 15.00, 4),

(10169, 'Manson', 'Marilyn', 'PT', 'Hourly', 15.00, 4),

(10170, 'Phair', 'Liz', 'SE', 'Hourly', 12.50, 8),

(10171, 'Blige', 'Mary', 'SE', 'Hourly', 12.50, 4),

(10172, 'Clapton', 'Eric', 'SE', 'Hourly', 12.50, 4),

(10173, 'O''Conner', 'Sinead', 'FT', 'Salary', 0.00, 4),

(10174, 'Lauryn', 'Hill', 'SE', 'Hourly', 12.50, 4),

(10175, 'Kravitz', 'Lenny', 'PT', 'Hourly', 15.00, 4),

(10176, 'Crow', 'Sheryl', 'PT', 'Hourly', 15.00, 4),

(10177, 'Manson', 'Shirley', 'PT', 'Hourly', 15.00, 4),

(10178, 'Vig', 'Butch', 'PT', 'Hourly', 15.00, 3),

(10179, 'Marker', 'Steve', 'PT', 'Hourly', 15.00, 3),

(10180, 'Erikson', 'Duke', 'PT', 'Hourly', 15.00, 3),

(10181, 'Carrasco', 'Claudio', 'PT', 'Hourly', 15.00, 3),

(10183, 'Avery', 'Eric', 'SE', 'Hourly', 12.50, 3),

(10189, 'Doyle', 'Alan', 'PT', 'Hourly', 15.00, 7),

(10190, 'Hallett', 'Bob', 'PT', 'Hourly', 15.00, 3),

(10191, 'Foster', 'Murray', 'SE', 'Hourly', 12.50, 3),

(10192, 'McCann', 'Sean', 'SE', 'Hourly', 12.50, 3),

(10193, 'Power', 'Darrell', 'SE', 'Hourly', 12.50, 3),

(10194, 'O''Riordan', 'Delores', 'PT', 'Hourly', 15.00, 3),

(10195, 'Quinn', 'Niall', 'PT', 'Hourly', 15.00, 3),

(10196, 'Lawler', 'Fergal','FT', 'Salary', 0.00, 8);

Select EMPLOYEE\_ID, BRANCH\_NUM,

Case

When BRANCH\_NUM = 1 Then 'Branch Downtown'

When BRANCH\_NUM = 2 Then 'Branch On The Hill'

When BRANCH\_NUM = 3 Then 'Branch On The Eastshore'

When BRANCH\_NUM = 4 Then 'Branch In Brooklyn'

Else 'Not a valid Branch Number'

End As [Employee Job Location] From Branch\_Employees;

Select AUTHOR\_NUM From Wrote

Intersect

Select AUTHOR\_NUM From Author

Where AUTHOR\_NUM BETWEEN 11 AND 29;

Select B1.BRANCH\_NUM, B2.BRANCH\_NUM As [Related Branch]

From Branch B1

Join Branch B2 On B1.BRANCH\_NUM IN (2, 5);

Select

Branch.BRANCH\_NUM,

Branch.BRANCH\_LOCATION,

Branch\_Employees.EMPLOYEE\_ID,

Branch\_Employees.HOURLY\_WAGE

From Branch

Cross Join Branch\_Employees

Where Branch.BRANCH\_NUM = 4 And Branch\_Employees.HOURLY\_WAGE = 12.50;

Select

Branch\_Employees.EMPLOYEE\_ID,

Branch\_Employees.LAST\_NAME,

Branch\_Employees.BRANCH\_NUM,

Avg(Sales.SALE\_PRICE) As [Average Sales Price]

From Branch\_Employees

Left Join Sales

On Branch\_Employees.BRANCH\_NUM = Sales.BRANCH\_NUM

Group By

Branch\_Employees.BRANCH\_NUM,

Branch\_Employees.EMPLOYEE\_ID,

Branch\_Employees.LAST\_NAME;

Select EMPLOYEE\_ID, JOB\_CODE, Max(HOURLY\_WAGE) As MaxHourlyWage

From Branch\_Employees

Group By JOB\_CODE, EMPLOYEE\_ID

Having Max(HOURLY\_WAGE) = 0;

--Extra Credit

Update Branch\_Employees

Set HOURLY\_WAGE = 25.00

Where HOURLY\_WAGE = 0.00;

Select Inventory.BRANCH\_NUM AS BranchNumber, Branch\_Employees.EMPLOYEE\_ID AS EmployeeID, Branch\_Employees.LAST\_NAME AS LastName,

Avg(Branch\_Employees.HOURLY\_WAGE) As AverageHourlyWage

From Inventory

Right Join Branch\_Employees

On Inventory.BRANCH\_NUM = Branch\_Employees.BRANCH\_NUM

Group By

Inventory.BRANCH\_NUM,

Branch\_Employees.EMPLOYEE\_ID,

Branch\_Employees.LAST\_NAME

Having Avg(Branch\_Employees.HOURLY\_WAGE) > 20.00;