SQL ASSIGNMENT

```sql
CREATE DATABASE My_SQL;

USE My_SQL;

CREATE TABLE products (
    product_id VARCHAR(20) PRIMARY KEY,
    product_name VARCHAR(255) NOT NULL,
    category VARCHAR(100),
    price DECIMAL(10, 2),
    quantity INT,
    created_at DATE
);

INSERT INTO products (product_id, product_name, category, price, quantity,created_at)
VALUES
('P001', 'Wireless Mouse', 'Electronics', 19.99, 150, '2024-10-20'),
('P002', 'Gaming Keyboard', 'Electronics', 49.99, 75, '2024-10-18'),
('P003', 'Bluetooth Speaker', 'Electronics', 29.99, 100, '2024-10-19'),
('P004', 'Office Chair', 'Furniture', 85.00, 25, '2024-10-17'),
('P005', 'Desk Lamp', 'Furniture', 22.50, 50, '2024-10-21'),
('P006', 'Coffee Mug', 'Kitchen', 12.99, 200, '2024-10-16'),
('P007', 'Running Shoes', 'Footwear', 59.99, 60, '2024-10-18'),
('P008', 'Yoga Mat', 'Fitness', 30.00, 90, '2024-10-20');

SELECT * from products;
```

	product_id	product_name	category	price	quantity	created_at
1	P001	Wireless Mouse	Electronics	19.99	150	2024-10-20
2	P002	Gaming Keyboard	Electronics	49.99	75	2024-10-18
3	P003	Bluetooth Speaker	Electronics	29.99	100	2024-10-19
4	P004	Office Chair	Furniture	85.00	25	2024-10-17
5	P005	Desk Lamp	Furniture	22.50	50	2024-10-21
6	P006	Coffee Mug	Kitchen	12.99	200	2024-10-16
7	P007	Running Shoes	Footwear	59.99	60	2024-10-18
8	P008	Yoga Mat	Fitness	30.00	90	2024-10-20

```sql
CREATE TABLE Books (
    book_id VARCHAR(10) PRIMARY KEY,
    book_title VARCHAR(100),
    book_type VARCHAR(50),
    price DECIMAL(10, 2),
    sales INT,
    royalty DECIMAL(10, 2),
    publish_date DATE,
    pub_id VARCHAR(10),
    FOREIGN KEY (pub_id) REFERENCES Publishers(pub_id)
);


INSERT INTO Books (book_id, book_title, book_type, price, sales, royalty,
publish_date, pub_id) VALUES
('B001', 'Introduction to SQL', 'Tech', 39.99, 5000, 10.50, '2022-01-15',
'0736'),
('B002', 'Advanced Business Strategy', 'Business', 49.99, 3000, 12.00,
'2021-03-20', '0877'),
('B003', 'Cloud Architecture', 'Tech', 59.99, 2500, 15.25, '2023-06-10',
'0921'),
('B004', 'Data Science Essentials', 'Tech', 65.00, 4000, 18.75,
'2022-07-25', '0877'),
('B005', 'Machine Learning Basics', 'Tech', 55.50, 6000, 13.60,
'2021-11-18', '1001'),
```

```sql
('B006', 'Leadership in Business', 'Business', 30.99, 8000, 8.50,
'2023-02-15', '0921'),
('B007', 'Introduction to AI', 'Tech', 70.00, 7000, 14.99, '2023-09-30',
'0736'),
('B008', 'The Future of Technology', 'Tech', 45.00, 1500, 10.00,
'1991-05-15', '0736'),
('B009', 'The Rise of AI', 'Tech', 50.00, 9000, 20.00, '1991-08-01',
'0877'),
('B010', 'Business Trends 1991', 'Business', 40.00, 3500, 15.00,
'1991-04-20', '0921'),
('B011', 'The Art of Negotiation', 'Business', 29.99, 1500, 10.00,
'1992-01-10', '1001'),
('B012', 'Environmental Science', 'Science', 55.00, 3000, 12.50,
'1991-11-05', '1105'),
('B013', 'Marketing 101', 'Business', 32.50, 2000, 11.00, '1992-03-15',
'1203'),
('B014', 'Understanding Psychology', 'Psychology', 45.00, 3500, 15.00,
'2022-01-01', '0736'),
('B015', 'The Undefined Path', 'Undefined', 25.00, 1500, 5.00,
'2023-04-10', '0877'),
('B016', 'Modern Psychology', 'Psychology', 49.99, 3000, 18.00,
'2021-09-15', '1001'),
('B017', 'Exploring the Unknown', 'Undefined', 15.99, 800, 2.50,
'2022-12-12', '1105'),
('B018', 'Psychology of the Mind', 'Psychology', 37.50, 1200, 9.00,
'2020-07-07', '1203'),
('BU1111', 'Harry Potter', 'Fiction', 15.99, 100, 5.00, '2020-01-01',
'1105'),
('MC2222', 'Zero To One', 'Non-Fiction', 20.99, 50, 10.00, '2019-05-15',
'1506');


SELECT * FROM Books;
```

	book_id	book_title	book_type	price	sales	royalty	publish_date	pub_id
1	B001	Introduction to SQL	Tech	39.99	5000	10.50	2022-01-15	0736
2	B002	Advanced Business Strategy	Business	49.99	3000	12.00	2021-03-20	0877
3	B003	Cloud Architecture	Tech	59.99	2500	15.25	2023-06-10	0921
4	B004	Data Science Essentials	Tech	65.00	4000	18.75	2022-07-25	0877
5	B005	Machine Learning Basics	Tech	55.50	6000	13.60	2021-11-18	1001
6	B006	Leadership in Business	Business	30.99	8000	8.50	2023-02-15	0921
7	B007	Introduction to AI	Tech	70.00	7000	14.99	2023-09-30	0736
8	B008	The Future of Technology	Tech	45.00	1500	10.00	1991-05-15	0736
9	B009	The Rise of AI	Tech	50.00	9000	20.00	1991-08-01	0877
10	B010	Business Trends 1991	Business	40.00	3500	15.00	1991-04-20	0921
11	B011	The Art of Negotiation	Business	29.99	1500	10.00	1992-01-10	1001
12	B012	Environmental Science	Science	55.00	3000	12.50	1991-11-05	1105
13	B013	Marketing 101	Business	32.50	2000	11.00	1992-03-15	1203
14	B014	Understanding Psychology	Psychology	45.00	3500	15.00	2022-01-01	0736
15	B015	The Undefined Path	Undefined	25.00	1500	5.00	2023-04-10	0877
16	B016	Modern Psychology	Psychology	49.99	3000	18.00	2021-09-15	1001
17	B017	Exploring the Unknown	Undefined	15.99	800	2.50	2022-12-12	1105
18	B018	Psychology of the Mind	Psychology	37.50	1200	9.00	2020-07-07	1203
19	BU1111	Harry Potter	Fiction	15.99	100	5.00	2020-01-01	1105
20	MC2222	Zero To One	Non-Fiction	20.99	50	10.00	2019-05-15	1506

```sql
CREATE TABLE Titles (
    title_id VARCHAR(10) PRIMARY KEY,
    title VARCHAR(100),
    type VARCHAR(20),
    pub_id VARCHAR(10),
    price DECIMAL(10, 2),
    sales INT,
    royalty DECIMAL(5, 2),
    pubdate DATE,
    FOREIGN KEY (pub_id) REFERENCES Publishers(pub_id)
);



INSERT INTO Titles (title_id, title, type, pub_id, price, sales, royalty,
pubdate) VALUES
('FI1234', 'Fictional Tales', 'Fiction', '0736', 19.99, 15000, 10,
'2018-11-15'),
('SC5678', 'Science in Depth', 'Science', '0877', 45.00, 8000, 12,
'2021-03-22'),
('FI1991', 'Fictional Insights 1991', 'Fiction', '0736', 20.00, 3000, 11,
'1991-08-15'),
('SC1991', 'Science Trends 1991', 'Science', '0877', 40.00, 2500, 14,
'1991-12-01'),
```

```
('BI1992', 'Biographies of 1992', 'Biography', '0921', 35.00, 1200, 10,
'1992-05-10'),
('CO1992', 'Coding in the 90s', 'Technology', '1001', 55.00, 1500, 12,
'1992-09-15'),
('BI3456', 'Biography of Innovators', 'Biography', '0921', 30.50, 12000,
15, '2019-07-30'),
('RM0987', 'Romantic Escapes', 'Romance', '1001', 22.00, 5000, 8,
'2022-02-14'),
('CO2345', 'Coding Essentials', 'Technology', '1105', 50.00, 3000, 25,
'2020-06-10'),
('BA6789', 'Business Analytics', 'Business', '1203', 55.00, 20000, 18,
'2023-01-05'),
('PS1294', 'Understanding Human Behavior', 'Psychology', '0736', 34.99,
2500, 15, '1990-05-10'),
('PS5248', 'Cognitive Science Insights', 'Psychology', '1001', 29.99,
6000, 12, '2021-04-20'),
('PS9121', 'Psychology of Learning', 'Psychology', '1203', 22.50, 8000,
10, '1999-03-15'),
('UD1004', 'The Undefined Journey', 'Undefined', '0877', 19.99, 1500, 5,
'2000-11-12'),
('UD0008', 'Undefined Theories in Science', 'Undefined', '1105', 27.50,
3000, 8, '1991-02-28');


SELECT * FROM Titles;
```

	title_id	title	type	pub_id	price	sales	royalty	pubdate
1	BA6789	Business Analytics	Business	1203	55.00	20000	18.00	2023-01-05
2	BI1992	Biographies of 1992	Biography	0921	35.00	1200	10.00	1992-05-10
3	BI3456	Biography of Innovators	Biography	0921	30.50	12000	15.00	2019-07-30
4	CO1992	Coding in the 90s	Technology	1001	55.00	1500	12.00	1992-09-15
5	CO2345	Coding Essentials	Technology	1105	50.00	3000	25.00	2020-06-10
6	FI1234	Fictional Tales	Fiction	0736	19.99	15000	10.00	2018-11-15
7	FI1991	Fictional Insights 1991	Fiction	0736	20.00	3000	11.00	1991-08-15
8	PS1294	Understanding Human Behavior	Psychology	0736	34.99	2500	15.00	1990-05-10
9	PS5248	Cognitive Science Insights	Psychology	1001	29.99	6000	12.00	2021-04-20
10	PS9121	Psychology of Learning	Psychology	1203	22.50	8000	10.00	1999-03-15
11	RM0987	Romantic Escapes	Romance	1001	22.00	5000	8.00	2022-02-14
12	SC1991	Science Trends 1991	Science	0877	40.00	2500	14.00	1991-12-01
13	SC5678	Science in Depth	Science	0877	45.00	8000	12.00	2021-03-22
14	UD0008	Undefined Theories in Science	Undefined	1105	27.50	3000	8.00	1991-02-28
15	UD1004	The Undefined Journey	Undefined	0877	19.99	1500	5.00	2000-11-12

```sql
CREATE TABLE Books_Authors (
    book_id VARCHAR(10),
    author_id VARCHAR(10),
    author_order BIT,
    PRIMARY KEY (book_id, author_id),
    FOREIGN KEY (book_id) REFERENCES Books(book_id),
    FOREIGN KEY (author_id) REFERENCES Authors(author_id)
);

INSERT INTO Books_Authors (book_id, author_id, author_order) VALUES
('B001', 'A001', 1),
('B002', 'A001', 2),
('B003', 'A001', 3),
('B004', 'A002', 1),
('B005', 'A002', 2),
('B006', 'A002', 3),
('B007', 'A003', 1),
('B008', 'A003', 2),
('B009', 'A003', 3),
('B010', 'A004', 1);

SELECT * FROM Books_Authors
```

	book_id	author_id	author_order
1	B001	A001	1
2	B002	A001	1
3	B003	A001	1
4	B004	A002	1
5	B005	A002	1
6	B006	A002	1
7	B007	A003	1
8	B008	A003	1
9	B009	A003	1
10	B010	A004	1

```sql
CREATE TABLE Publishers (
    pub_id VARCHAR(10) PRIMARY KEY,
    pub_name VARCHAR(100),
    city VARCHAR(50),
    state VARCHAR(50),
    country VARCHAR(50)
);


INSERT INTO Publishers (pub_id, pub_name, city, state, country) VALUES
('0736', 'Tech Publishers', 'San Francisco', 'CA', 'USA'),
('0877', 'Business Insights', 'New York', 'NY', 'USA'),
('0921', 'Cloud Books', 'Toronto', 'ON', 'Canada'),
('1001', 'AI Innovations', 'London', 'UK', 'UK'),
('1105', 'Data Science House', 'Los Angeles', 'CA', 'USA'),
('1203', 'Future Tech', 'Menlo Park', 'CA', 'USA'),
('1304', 'Global Publishers', 'Mumbai', 'MH', 'India'),
('1405', 'Local Stories', 'Osaka', 'JP', 'Japan'),
('1506', 'Scientific Solutions', 'San Francisco', 'CA', 'USA'),
('1607', 'Artisan Books', 'Los Angeles', 'CA', 'USA');



SELECT * FROM Publishers;
```

	pub_id	pub_name	city	state	country
1	0736	Tech Publishers	San Francisco	CA	USA
2	0877	Business Insights	New York	NY	USA
3	0921	Cloud Books	Toronto	ON	Canada
4	1001	AI Innovations	London	UK	UK
5	1105	Data Science House	Los Angeles	CA	USA
6	1203	Future Tech	Menlo Park	CA	USA
7	1304	Global Publishers	Mumbai	MH	India
8	1405	Local Stories	Osaka	JP	Japan
9	1506	Scientific Solutions	San Francisco	CA	USA
10	1607	Artisan Books	Los Angeles	CA	USA

```sql
CREATE TABLE Authors (
    author_id VARCHAR(10) PRIMARY KEY,
    first_name VARCHAR(50),
    last_name VARCHAR(50),
    city VARCHAR(50),
    state VARCHAR(50)
);


INSERT INTO Authors (author_id, first_name, last_name, city, state) VALUES
('A001', 'Emily', 'Clark', 'London', 'UK'),
('A002', 'Michael', 'Jordan', 'Los Angeles', 'CA'),
('A003', 'Samantha', 'Smith', 'Menlo Park', 'CA'),
('A004', 'Daniel', 'Lee', 'Toronto', 'ON'),
('A005', 'Sophia', 'Wright', 'New York', 'NY'),
('A006', 'Robert', 'Miller', 'San Francisco', 'CA'),
('A007', 'Lucas', 'Williams', 'Sydney', 'NSW'),
('A008', 'Isabella', 'Green', 'Osaka', 'JP'),
('A009', 'Ethan', 'Baker', 'San Francisco', 'CA'),
('A010', 'Dean', 'Thomas', 'Mumbai', 'MH'),
('A011', 'Sarah', 'Connor', 'Los Angeles', 'CA'),
('A012', 'Samuel', 'Johnson', 'Los Angeles', 'CA'),
('A013', 'Sophie', 'Turner', 'San Francisco', 'CA'),
```

```sql
('A014', 'Steve', 'Jobs', 'Menlo Park', 'CA');


Select * FROM Authors;
```

	author_id	first_name	last_name	city	state
1	A001	Emily	Clark	London	UK
2	A002	Michael	Jordan	Los Angeles	CA
3	A003	Samantha	Smith	Menlo Park	CA
4	A004	Daniel	Lee	Toronto	ON
5	A005	Sophia	Wright	New York	NY
6	A006	Robert	Miller	San Francisco	CA
7	A007	Lucas	Williams	Sydney	NSW
8	A008	Isabella	Green	Osaka	JP
9	A009	Ethan	Baker	San Francisco	CA
10	A010	Dean	Thomas	Mumbai	MH
11	A011	Sarah	Connor	Los Angeles	CA
12	A012	Samuel	Johnson	Los Angeles	CA
13	A013	Sophie	Turner	San Francisco	CA
14	A014	Steve	Jobs	Menlo Park	CA

```sql
-- 1. Add new column to products table that stores tax rate for the
products update tax rate to 12% to all products.

ALTER TABLE products ADD tax_rate DECIMAL(5, 2);

UPDATE products SET tax_rate = 12.00;
```

OUTPUT :-

	product_id	tax_rate
1	P001	12.00
2	P002	12.00
3	P003	12.00
4	P004	12.00
5	P005	12.00
6	P006	12.00
7	P007	12.00
8	P008	12.00

```sql
-- 2. Display tiles that End with 's'/'t'.

SELECT title from titles where title LIKE '%s' OR title LIKE '%t' ;
```

	title
1	Business Analytics
2	Biography of Innovators
3	Coding in the 90s
4	Coding Essentials
5	Fictional Tales
6	Romantic Escapes

```sql
-- 3. Display books of type business, psychology & undecided.

Select * FROM titles WHERE type IN ('business', 'psychology'
,'undecided');
```

	title_id	title	type	pub_id	price	sales	royalty	pubdate
1	BA6789	Business Analytics	Business	1203	55.00	20000	18.00	2023-01-05
2	PS1294	Understanding Human Behavior	Psychology	0736	34.99	2500	15.00	1990-05-10
3	PS5248	Cognitive Science Insights	Psychology	1001	29.99	6000	12.00	2021-04-20
4	PS9121	Psychology of Learning	Psychology	1203	22.50	8000	10.00	1999-03-15

```sql
-- 4. Display titles where the sales>5,000 & royality < 20.
```

```sql
SELECT title FROM titles WHERE sales > 5000 AND royalty < 20;
```

	title
1	Business Analytics
2	Biography of Innovators
3	Fictional Tales
4	Cognitive Science Insights
5	Psychology of Learning
6	Science in Depth

-- 5. Display titles in the ascending of sales for publisher 0736.

```sql
SELECT title from titles Where pub_id = 0736 ORDER BY sales ;
```

	title
1	Understanding Human Behavior
2	Fictional Insights 1991
3	Fictional Tales

-- 6. Display the difference between maximum & minimum royality of books published day publisher 0877.

```sql
SELECT MAX(royalty) - MIN(royalty) AS result FROM titles Where pub_id = 0877;
```

	result
1	9.00

-- 7. Display author_id & no of books written by Author.

```sql
SELECT author_id, COUNT(*) AS no_of_books FROM Books_Authors  GROUP BY author_id ;
```

	author_id	no_of_books
1	A001	3
2	A002	3
3	A003	3
4	A004	1

-- 8. Display how many authors are there for each title.

```sql
SELECT COUNT(author_id) AS no_of_authors fROM authors ;
```

	no_of_authors
1	10

-- 9. Display average royality % for authors with order 1.

```sql
SELECT AVG(royalty) AS avg_royalty FROM Books
JOIN Books_Authors ON Books.Book_id = Books_Authors.Book_id
WHERE author_order = 1;
```

	avg_royalty
1	13.859000

-- 10. Display titles in the order of price if sales are in the range 10k to 20k.

```sql
SELECT title FROM titles WHERE sales >= 10000 AND sales <= 20000 ORDER BY price ;
```

                              -- OR

```sql
SELECT title FROM titles WHERE sales BETWEEN 10000 AND 20000 ORDER BY price;
```

	title
1	Fictional Tales
2	Biography of Innovators
3	Business Analytics

-- 11. Display how many authors are in the city Menlo park

SELECT COUNT(*) AS no_of_authors FROM authors WHERE city = 'Menlo park' ;

	no_of_authors
1	1

-- 12. Display state and no of authors we have in the state in the order of state.

SELECT state, COUNT(*) AS no_of_authors FROM authors GROUP BY state ORDER BY state;

	state	no_of_authors
1	CA	4
2	JP	1
3	MH	1
4	NSW	1
5	NY	1
6	ON	1
7	UK	1

-- 13. Display States in which we have more than 2 authors, with 1st name starting with 's'.

```sql
SELECT state FROM authors WHERE first_name LIKE 's%' GROUP BY state HAVING
COUNT(*) > 2;
```

	state
1	CA

```sql
-- 14. Display title after replacing all spaces with (dots) and (hypens)
with (stars).

SELECT REPLACE(REPLACE(title, ' ', '.'), '-', '*') AS new_title
FROM titles;
```

	new_title
1	Business.Analytics
2	Biographies.of.1992
3	Biography.of.Innovators
4	Coding.in.the.90s
5	Coding.Essentials
6	Fictional.Tales
7	Fictional.Insights.1991
8	Understanding.Human.Behavior
9	Cognitive.Science.Insights
10	Psychology.of.Learning
11	Romantic.Escapes
12	Science.Trends.1991
13	Science.in.Depth
14	Undefined.Theories.in.Science
15	The.Undefined.Journey

```
-- 15. Display title by Removing all spaces.

SELECT REPLACE(title,' ','') AS new_title FROM titles;
```

	new_title
1	BusinessAnalytics
2	Biographiesof1992
3	BiographyofInnovators
4	Codinginthe90s
5	CodingEssentials
6	FictionalTales
7	FictionalInsights1991
8	UnderstandingHumanBehavior
9	CognitiveScienceInsights
10	PsychologyofLearning
11	RomanticEscapes
12	ScienceTrends1991
13	ScienceinDepth
14	UndefinedTheoriesinScience
15	TheUndefinedJourney

```
-- 16. Display first word in the title.

SELECT
    SUBSTRING(title, 1, PATINDEX('% %', title + ' ') - 1) AS first_word
FROM titles;
```

	first_word
1	Business
2	Biographies
3	Biography
4	Coding
5	Coding
6	Fictional
7	Fictional
8	Understanding
9	Cognitive
10	Psychology
11	Romantic
12	Science
13	Science
14	Undefined
15	The

-- 17. Display month and no of books published.

```sql
SELECT  MONTH(pubdate) AS month,  COUNT(*) AS no_of_books FROM titles
GROUP BY MONTH(pubdate) ORDER BY MONTH(pubdate);
```

	month	no_of_books
1	1	1
2	2	2
3	3	2
4	4	1
5	5	2
6	6	1
7	7	1
8	8	1
9	9	1
10	11	2
11	12	1

-- 18. Display title publisher name for titles where the publisher is in USA.

```sql
SELECT b.Book_title,p.pub_name FROM Books b JOIN publishers p ON b.pub_id
= p.pub_id WHERE country = 'USA';
```

	Book_title	pub_name
1	Introduction to SQL	Tech Publishers
2	Advanced Business Strategy	Business Insights
3	Data Science Essentials	Business Insights
4	Introduction to AI	Tech Publishers
5	The Future of Technology	Tech Publishers
6	The Rise of AI	Business Insights
7	Environmental Science	Data Science House
8	Marketing 101	Future Tech
9	Understanding Psychology	Tech Publishers
10	The Undefined Path	Business Insights
11	Exploring the Unknown	Data Science House
12	Psychology of the Mind	Future Tech

-- 19. Display publisher name and average price of books.

```sql
SELECT p.pub_name, AVG(price) AS result FROM Books b JOIN Publishers p ON
b.pub_id = p.pub_id GROUP BY pub_name;
```

	pub_name	result
1	AI Innovations	45.160000
2	Business Insights	47.497500
3	Cloud Books	43.660000
4	Data Science House	35.495000
5	Future Tech	35.000000
6	Tech Publishers	49.997500

-- 20. Display City of author and then no of books written by authors in the City.

```sql
SELECT City, COUNT(Book_id) AS num_books FROM Authors JOIN Books_Authors
ON Authors.author_id = Books_Authors.author_id GROUP BY City;
```

	City	num_books
1	London	3
2	Los Angeles	3
3	Menlo Park	3
4	Toronto	1

```sql
-- 21. Display auther name, title for all authors including the once
without a title.

SELECT
    a.first_name + ' ' + a.last_name AS full_name,
    b.Book_title
FROM
    Authors a
LEFT JOIN
    Books_Authors ba ON a.author_id = ba.author_id
LEFT JOIN
    Books b ON ba.Book_id = b.Book_id;
```

	full_name	Book_title
1	Emily Clark	Introduction to SQL
2	Emily Clark	Advanced Business Strategy
3	Emily Clark	Cloud Architecture
4	Michael Jordan	Data Science Essentials
5	Michael Jordan	Machine Learning Basics
6	Michael Jordan	Leadership in Business
7	Samantha Smith	Introduction to AI
8	Samantha Smith	The Future of Technology
9	Samantha Smith	The Rise of AI
10	Daniel Lee	Business Trends 1991
11	Sophia Wright	*NULL*
12	Robert Miller	*NULL*
13	Lucas Williams	*NULL*
14	Isabella Green	*NULL*
15	Ethan Baker	*NULL*
16	Dean Thomas	*NULL*
17	Sarah Connor	*NULL*
18	Samuel Johnson	*NULL*
19	Sophie Turner	*NULL*
20	Steve Jobs	*NULL*

```sql
-- 22. Display title publisher name and author name of the primary author.
SELECT
    b.Book_title,
    p.pub_name,
    ISNULL(a.first_name, '') + ' ' + ISNULL(a.last_name, '') AS Author_name
FROM
    Books b
JOIN
    Publishers p ON b.Pub_id = p.Pub_id
JOIN
    Books_Authors ba ON b.Book_id = ba.Book_id
JOIN
    Authors a ON ba.Author_id = a.Author_id
```

```
WHERE
    ba.author_order = 1;
```

	Book_title	pub_name	Author_name
1	Introduction to SQL	Tech Publishers	Emily Clark
2	Advanced Business Strategy	Business Insights	Emily Clark
3	Cloud Architecture	Cloud Books	Emily Clark
4	Data Science Essentials	Business Insights	Michael Jordan
5	Machine Learning Basics	AI Innovations	Michael Jordan
6	Leadership in Business	Cloud Books	Michael Jordan
7	Introduction to AI	Tech Publishers	Samantha Smith
8	The Future of Technology	Tech Publishers	Samantha Smith
9	The Rise of AI	Business Insights	Samantha Smith
10	Business Trends 1991	Cloud Books	Daniel Lee

-- 23. Display City of publisher and maximum price of all titles.

```sql
SELECT p.City,MAX(b.price) AS Max_Price FROM Books b JOIN Publishers p ON
p.pub_id = b.pub_id GROUP BY p.City;
```

	City	Max_Price
1	London	55.50
2	Los Angeles	55.00
3	Menlo Park	37.50
4	New York	65.00
5	San Francisco	70.00
6	Toronto	59.99

```sql
-- 24. Display titles written by any author in City (menlo park).

SELECT b.Book_title, CONCAT(a.first_name,' ',a.last_name) AS Author_name
FROM Books b JOIN Books_Authors ba ON ba.Book_id = b.Book_id JOIN Authors
a ON a.author_id = ba.author_id
WHERE a.City = 'menlo Park';
```

	Book_title	Author_name
1	Introduction to AI	Samantha Smith
2	The Future of Technology	Samantha Smith
3	The Rise of AI	Samantha Smith

```sql
-- 25. Display publishers who published a titles in 1991.

SELECT DISTINCT p.pub_name FROM publishers p JOIN titles t ON p.pub_id =
t.pub_id WHERE YEAR(t.publish_date) = 1991;
```

	pub_name
1	Business Insights
2	Cloud Books
3	Data Science House
4	Tech Publishers

```sql
-- 26. Display titles not published in USA.

SELECT b.book_title FROM Books b JOIN Publishers p ON p.pub_id = b.pub_id
WHERE p.Country != 'USA';
```

	book_title
1	Cloud Architecture
2	Machine Learning Basics
3	Leadership in Business
4	Business Trends 1991
5	The Art of Negotiation
6	Modern Psychology

```sql
-- 27. Display titles either published in USA (or) having price <5.

SELECT b.book_title FROM Books b JOIN Publishers p ON p.pub_id = b.pub_id
WHERE p.Country ='USA' OR b.price < 5;
```

	book_title
1	Introduction to SQL
2	Advanced Business Strategy
3	Data Science Essentials
4	Introduction to AI
5	The Future of Technology
6	The Rise of AI
7	Environmental Science
8	Marketing 101
9	Understanding Psychology
10	The Undefined Path
11	Exploring the Unknown
12	Psychology of the Mind

```sql
-- 28. create a view to contain title, publisher, year of publishing,
price and type. Make sure when price is null display Zero and type is null
display Unknown.

CREATE VIEW BookDetails AS
SELECT t.title, p.pub_name, Year(t.pubdate) AS year, ISNULL(t.price,0.0)
AS price, ISNULL(t.type,'UNKNOWN') AS type FROM Titles t JOIN Publishers p
ON p.pub_id = t.pub_id;
SELECT * FROM BookDetails;
```

	title	pub_name	year	price	type
1	Business Analytics	Future Tech	2023	55.00	Business
2	Biographies of 1992	Cloud Books	1992	35.00	Biography
3	Biography of Innovators	Cloud Books	2019	30.50	Biography
4	Coding in the 90s	AI Innovations	1992	55.00	Technology
5	Coding Essentials	Data Science House	2020	50.00	Technology
6	Fictional Tales	Tech Publishers	2018	19.99	Fiction
7	Fictional Insights 1991	Tech Publishers	1991	20.00	Fiction
8	Understanding Human Behavior	Tech Publishers	1990	34.99	Psychology
9	Cognitive Science Insights	AI Innovations	2021	29.99	Psychology
10	Psychology of Learning	Future Tech	1999	22.50	Psychology
11	Romantic Escapes	AI Innovations	2022	22.00	Romance
12	Science Trends 1991	Business Insights	1991	40.00	Science
13	Science in Depth	Business Insights	2021	45.00	Science
14	Undefined Theories in Science	Data Science House	1991	27.50	Undefined
15	The Undefined Journey	Business Insights	2000	19.99	Undefined

-- 29. Display publishers who published books by author who wrote more than 2 titles.

```sql
SELECT DISTINCT p.pub_name FROM Publishers p
JOIN Books b ON p.pub_id = b.pub_id
JOIN Books_Authors a ON a.book_id = b.Book_id

WHERE a.author_id IN (
    SELECT author_id
    FROM Books_Authors
    GROUP BY author_id
    HAVING COUNT(*) > 2
);
```

	pub_name
1	AI Innovations
2	Business Insights
3	Cloud Books
4	Tech Publishers

```sql
-- 30. Delete rows from title author for author with first_name as dean.

DELETE ta FROM Books_Authors ta JOIN Authors a ON ta.author_id =
a.author_id WHERE a.first_name = 'Dean';
```

(0 rows affected)
Total execution time: 00:00:00.003

```sql
-- 31. Update the price of the book BU1111 with the Price of book MC2222.

UPDATE Books SET price = (SELECT price FROM Books WHERE book_id =
'MC2222') WHERE book_id = 'BU1111';
```

(1 row affected)
Total execution time: 00:00:00.011

```sql
SELECT book_id,book_title,price FROM Books WHERE book_id = 'BU1111';
```

	book_id	book_title	price
1	BU1111	Harry Potter	20.99

```sql
-- 32. Display titles published in last 25 years.

SELECT book_title FROM Books WHERE publish_date >= DATEADD(YEAR, -25,
GETDATE());
```

	book_title
1	Introduction to SQL
2	Advanced Business Strategy
3	Cloud Architecture
4	Data Science Essentials
5	Machine Learning Basics
6	Leadership in Business
7	Introduction to AI
8	Understanding Psychology
9	The Undefined Path
10	Modern Psychology
11	Exploring the Unknown
12	Psychology of the Mind
13	Harry Potter
14	Zero To One

```sql
-- 33. Display titles published by any publisher who published a title in
2021.

SELECT book_title FROM Books WHERE pub_id IN (
    SELECT DISTINCT pub_id FROM Books  WHERE YEAR(publish_date) = 2021
);
```

	book_title
1	Advanced Business Strategy
2	Data Science Essentials
3	Machine Learning Basics
4	The Rise of AI
5	The Art of Negotiation
6	The Undefined Path
7	Modern Psychology

```sql
-- 34. Create a view to display publisher name, city, and no of books
published.

CREATE VIEW PublisherBookCount AS
SELECT
    p.pub_name,
    p.city,
    COUNT(b.book_id) AS number_of_books
FROM
    Publishers p
LEFT JOIN
    Books b ON p.pub_id = b.pub_id
GROUP BY
    p.pub_name, p.city;


SELECT * FROM PublisherBookCount;
```

	pub_name	city	number_of_books
1	AI Innovations	London	3
2	Artisan Books	Los Angeles	0
3	Data Science House	Los Angeles	3
4	Future Tech	Menlo Park	2
5	Global Publishers	Mumbai	0
6	Business Insights	New York	4
7	Local Stories	Osaka	0
8	Scientific Solutions	San Francisco	1
9	Tech Publishers	San Francisco	4
10	Cloud Books	Toronto	3