LAB 1:

```sql
SELECT id, name, price
FROM products
WHERE price < 100;
```

id	name	price
3	Coffee Maker	89.99
4	Harry Potter Book	19.99
5	Lego Set	59.99
6	Leather Wallet	45.99

LAB 2:

```sql
SELECT * FROM products;
```

id	name	price	supplier	category
1	Samsung Tablet	299.99	Samsung Electronics	Electronics
2	Nike Air Max	129.99	Sports Hub	Fashion
3	Coffee Maker	89.99	Kitchen Plus	Appliances
4	Harry Potter Book	19.99	Book World	Books
5	Lego Set	59.99	Toy Store	Toys
6	Leather Wallet	45.99	Fashion Hub	Accessories

Lab 3:

name	price
Samsung Tablet	299.99
Nike Air Max	129.99
Coffee Maker	89.99
Harry Potter Book	19.99
Lego Set	59.99
Leather Wallet	45.99

```sql
SELECT name, price
FROM products;
```

Lab 4:

id	name	price
4	Harry Potter Book	19.99
6	Leather Wallet	45.99
5	Lego Set	59.99
3	Coffee Maker	89.99
2	Nike Air Max	129.99
1	Samsung Tablet	299.99

```sql
SELECT id, name, price
FROM products
ORDER BY price;
```

Lab 5:

```sql
SELECT id, name, price,
(price - 0.2 * price) AS Discounted_price
FROM products;
```

id	name	price	Discounted_price
	abc Filt	abc Filter...	abc Filter...	abc Filter...
1	Samsung Tablet	299.99	239.992
2	Nike Air Max	129.99	103.992
3	Coffee Maker	89.99	71.992
4	Harry Potter Book	19.99	15.992
5	Lego Set	59.99	47.992
6	Leather Wallet	45.99	36.792

Lab 6:

```sql
SELECT
    id,
    name,
    price + price * 0.1 as price_with_10_percent,
    (price + 10) * 0.9 as service_charge_then_discounted
FROM products;
```

id	name	price_with_10_percent	service_charge_then_discounted
abc Fi	abc Filter...	abc Filter...	abc Filter...
1	Samsung Tablet	329.989	278.991
2	Nike Air Max	142.989	125.991
3	Coffee Maker	98.989	89.991
4	Harry Potter Book	21.989	26.991
5	Lego Set	65.989	62.991
6	Leather Wallet	50.589	50.391

Lab 7:

```sql
SELECT
    COUNT(*) AS total_products,
    MIN(price) AS min_price,
    MAX(price) AS max_price
FROM products;
```

total_products	min_price	max_price
abc Filter...	abc Filter...	abc Filter...
12	19.99	999.99

Lab 8:

```sql
SELECT category, COUNT(*) AS total_products
FROM products
GROUP BY category;
```

category	total_products
abc Filter...	abc Filter...
Electronics	4
Fashion	4
Appliances	1
Books	1
Toys	1
Accessories	1

Lab 9:

```sql
SELECT supplier, AVG(price) as AvgPrice
FROM products
GROUP BY supplier
HAVING AVG(price) > 100;
```

supplier	AvgPrice
abc Filter…	abc Filter…
Samsung Electronics	299.990000
Sports Hub	129.990000
Dell	999.990000
Samsung	799.990000
Apple	499.990000

Lab 10:

```sql
SELECT * FROM Students;
```

id	first_name	last_name	email	mobile_number
abc F	abc Filter…	abc Filter…	abc Filter…	abc Filter…
1	Milan	Bairagi	milan@gmail.com	NULL
2	Peter	Parker	NULL	9876543210

```sql
SELECT * FROM Students
WHERE email IS NULL;
```

id ↑	first_name	last_name	email	mobile_number
abc Fi	abc Filter…	abc Filter…	abc Filter.	abc Filter…
2	Peter	Parker	NULL	9876543210

```sql
SELECT * FROM Students
WHERE mobile_number IS NOT NULL;
```

id	first_name	last_name	email	mobile_number
abc Fi	abc Filter…	abc Filter…	abc Filter.	abc Filter…
2	Peter	Parker	NULL	9876543210

Lab 11:

```sql
SELECT
    name AS 'Product Name',
    price AS 'Price'
FROM products
LIMIT 5;
```

Product Name	Price
abc Filter…	abc Filter…
Samsung Tablet	299.99
Nike Air Max	129.99
Coffee Maker	89.99
Harry Potter Book	19.99
Lego Set	59.99

Lab 12:

```sql
SELECT
    CONCAT(first_name, ' ', last_name) AS "Student Name",
    email,
    mobile_number
FROM students;
```

Student Name	email	mobile_number
abc Filter…	abc Filter…	abc Filter…
Milan Bairagi	milan@gmail.com	NULL
Peter Parker	NULL	9876543210

Lab 13:

```sql
SELECT 'Hello World' AS greeting;
```

greeting
abc Filter...
Hello World

```sql
SELECT first_name, last_name, email
FROM students
WHERE first_name = 'Milan';
```

first_name	last_name	email
abc Filter...	abc Filter...	abc Filter...
Milan	Bairagi	milan@gmail.com

Lab 14:

```sql
SELECT DISTINCT category
FROM products;
```

category
abc Filter...
Electronics
Fashion
Appliances
Books
Toys
Accessories

Lab 15:

```sql
DESCRIBE students;
```

Field	Type	Null	Key	Default	Extra
abc Filter...	abc Filter...	abc Filter.	abc Filter.	abc Filter...	abc Filter...
id	int	NO	PRI	NULL	auto_increment
first_name	varchar(50)	NO		NULL	
last_name	varchar(50)	NO		NULL	
email	varchar(100)	YES		NULL	
mobile_number	varchar(15)	YES		NULL	

Lab 16:

```sql
SELECT name, price
FROM products
WHERE price BETWEEN 50 AND 100;
```

name	price
abc Filter...	abc Filter...
Coffee Maker	89.99
Lego Set	59.99
Jacket	89.99

Lab 17:

```sql
SELECT name, price, category
FROM products
WHERE category IN ('Electronics', 'Books');
```

name	price	category
abc Filter...	abc Filter..	abc Filter...
Samsung Tablet	299.99	Electronics
Harry Potter Book	19.99	Books
Laptop	999.99	Electronics
Smartphone	799.99	Electronics
Tablet	499.99	Electronics

Lab 18:

```
SELECT id, name, price
FROM products
WHERE name LIKE 'L%';
```

id	name	price
5	Lego Set	59.99
6	Leather Wallet	45.99
7	Laptop	999.99

Lab 19:

```
SELECT id, name, price
FROM products
WHERE name LIKE 'L%'
AND price < 100;
```

id	name	price
5	Lego Set	59.99
6	Leather Wallet	45.99

Lab 20:

```
SELECT name, category, price
FROM products
WHERE category = 'Fashion'
OR category = 'Toys';
```

name	category	price
Nike Air Max	Fashion	129.99
Lego Set	Toys	59.99
T-shirt	Fashion	19.99
Jeans	Fashion	49.99
Jacket	Fashion	89.99

Lab 21:

```
SELECT id, first_name, last_name
FROM students
WHERE NOT first_name = 'Peter';
```

id	first_name	last_name
1	Milan	Bairagi

Lab 22:

```
SELECT * FROM students
WHERE id IN (
    SELECT student_id FROM captains
);
```

id	first_na...	last_name	email	mobile_number
1	Milan	Bairagi	milan@gmail.com	NULL
4	Shikamaru	Nara	NULL	NULL
5	Neji	Hyuga	NULL	NULL

Lab 23:

```sql
SELECT
    CONCAT(students.first_name, ' ', students.last_name) AS Name,
    courses.course_name AS Course
FROM students
CROSS JOIN courses
LIMIT 10;
```

Name	Course
Kakashi Hatake	BIT
Neji Hyuga	BIT
Shikamaru Nara	BIT
Sasuke Uchiha	BIT
Peter Parker	BIT
Milan Bairagi	BIT
Kakashi Hatake	BSc. CSIT
Neji Hyuga	BSc. CSIT
Shikamaru Nara	BSc. CSIT
Sasuke Uchiha	BSc. CSIT

Lab 24:

```sql
SELECT
    students.first_name AS Name,
    courses.course_name AS Course
FROM students
NATURAL JOIN courses;
```

Name	Course
Milan	BIT
Peter	BSc. CSIT
Sasuke	BSc
Shikamaru	BBA
Neji	BHM
Kakashi	BBs

Lab 25:

```sql
SELECT s.first_name,
       s.last_name,
       c.course_name
FROM students s
JOIN courses c
USING (course_name);
```

first_name	last_name	course_name
Neji	Hyuga	BIT
Shikamaru	Nara	BIT
Milan	Bairagi	BIT
Peter	Parker	BSc. CSIT
Kakashi	Hatake	BBA
Sasuke	Uchiha	BBs

Lab 26:

```sql
SELECT s.first_name,
       s.last_name,
       c.course_name
FROM students s
JOIN courses c
ON (s.course_name = c.course_name);
```

first_name	last_name	course_name
abc Filter...	abc Filter...	abc Filter...
Neji	Hyuga	BIT
Shikamaru	Nara	BIT
Milan	Bairagi	BIT
Peter	Parker	BSc. CSIT
Kakashi	Hatake	BBA
Sasuke	Uchiha	BBs

Lab 27:

```sql
SELECT s.first_name,
       s.last_name,
       c.course_name
FROM students s
LEFT OUTER JOIN courses c
ON (s.course_name = c.course_name);
```

first_name	last_name	course_name
abc Filter...	abc Filter...	abc Filter...
Milan	Bairagi	BIT
Peter	Parker	BSc. CSIT
Sasuke	Uchiha	BBs
Shikamaru	Nara	BIT
Neji	Hyuga	BIT
Kakashi	Hatake	BBA

Lab 28:

```sql
SELECT s.first_name,
       s.last_name,
       c.course_name
FROM students s
RIGHT OUTER JOIN courses c
ON (s.course_name = c.course_name);
```

first_name	last_name	course_name
abc Filter...	abc Filter...	abc Filter...
Neji	Hyuga	BIT
Shikamaru	Nara	BIT
Milan	Bairagi	BIT
Peter	Parker	BSc. CSIT
NULL	NULL	BSc
Kakashi	Hatake	BBA
NULL	NULL	BHM
Sasuke	Uchiha	BBs

Lab 29:

```sql
SELECT students.first_name,
       students.last_name,
       courses.course_name
FROM students
LEFT JOIN courses
ON students.course_name = courses.course_name

UNION

SELECT students.first_name,
       students.last_name,
       courses.course_name
FROM students
RIGHT JOIN courses
ON students.course_name = courses.course_name;
```

first_name	last_name	course_name
abc Filter...	abc Filter...	abc Filter...
Milan	Bairagi	BIT
Peter	Parker	BSc. CSIT
Sasuke	Uchiha	BBs
Shikamaru	Nara	BIT
Neji	Hyuga	BIT
Kakashi	Hatake	BBA
NULL	NULL	BSc
NULL	NULL	BHM

Lab 30:

```sql
-- @block
CREATE TABLE authors (
    id INT PRIMARY KEY,
    name VARCHAR(100) NOT NULL,
    email VARCHAR(100) UNIQUE
);

-- @block
CREATE TABLE books (
    id INT PRIMARY KEY,
    title VARCHAR(100) NOT NULL,
    price DECIMAL(6, 2) CHECK (price > 0),
    author_id INT,
    FOREIGN KEY (author_id) REFERENCES authors(id)
);

-- @block
INSERT INTO authors (id, name, email)
VALUES
    (1, 'Milan Bairagi', 'milan@email.com'),
    (2, 'laxmi Prasad Devkota', 'devkota@email.com'),
    (3, 'J. K. Rowling', 'j.k.rowling@email.com'),
    (4, 'Sanu Sharma', 'sanu.sharma.@yahoo.com')
;

-- @block
INSERT INTO books
VALUES
    (1, "The Nonsense", 999.99, 1),
    (2, "Muna Madan", 500.99, 2),
    (3, "Shakuntala", 400.50, 2),
    (4, "Harry Potter", 700, 3),
    (5, "Te Saat Din", 600, 4)
;
-- @block
SELECT
    b.title AS Title,
    a.name AS Author,
    b.price AS Price
FROM authors a
JOIN books b
ON (a.id = b.author_id);
```

Title	Author	Price
abc Filter...	abc Filter...	abc Filter...
The Nonsense	Milan Bairagi	999.99
Muna Madan	laxmi Prasad Devkota	500.99
Shakuntala	laxmi Prasad Devkota	400.50
Harry Potter	J. K. Rowling	700.00
Te Saat Din	Sanu Sharma	600.00