SQL Table Queries & Data Types in Oracle

1. Creating Tables in Oracle SQL

```
CREATE TABLE employees (
    employee_id NUMBER PRIMARY KEY,
    first_name VARCHAR2(50),
    last_name VARCHAR2(50) NOT NULL,
    email VARCHAR2(100) UNIQUE,
    hire_date DATE DEFAULT SYSDATE,
    salary NUMBER(10,2) CHECK (salary > 0),
    department_id NUMBER REFERENCES departments(department_id)
);
```

2. Modifying Tables

```
ALTER TABLE employees ADD (phone_number VARCHAR2(20));
ALTER TABLE employees MODIFY salary NUMBER(12,2);
ALTER TABLE employees DROP COLUMN phone_number;
```

3. Deleting and Dropping Tables

```
DELETE FROM employees WHERE department_id = 10;
DROP TABLE employees;
TRUNCATE TABLE employees;
```

4. Retrieving Data

```
SELECT first_name, last_name, salary FROM employees;
SELECT * FROM employees WHERE salary > 5000;
SELECT * FROM employees ORDER BY last_name ASC;
SELECT department_id, AVG(salary) FROM employees GROUP BY department_id;
```

5. Oracle SQL Data Types

CHAR(n) - Fixed-length character (Max: 2000 bytes)

VARCHAR2(n) - Variable-length character (Max: 4000 bytes)

CLOB - Large text storage (Max: 4GB)

NUMBER(p,s) - Precision (p) and scale (s) numeric values

DATE - Stores date & time (Default format: DD-MON-YY)

BLOB - Binary Large Object (images, videos, etc.)

6. Joining Tables

INNER JOIN:

```
SELECT e.employee_id, e.first_name, d.department_name
FROM employees e
JOIN departments d ON e.department_id = d.department_id;
```

LEFT JOIN:

```
SELECT e.first_name, d.department_name
FROM employees e
LEFT JOIN departments d ON e.department_id = d.department_id;
```

7. Subqueries & Views

Subquery Example:

```
SELECT first_name, salary
FROM employees
WHERE salary > (SELECT AVG(salary) FROM employees);
```

Creating a View:

```
CREATE VIEW high_paid_employees AS
SELECT first_name, salary
FROM employees
WHERE salary > 10000;
```