

## SQL Schema and Sample Data for Research Projects Database

---

### TABLE CREATION

```
CREATE DATABASE research_project;
```

```
Use research_project;
```

```
CREATE TABLE FundingAgency (  
    agency_id INT PRIMARY KEY,  
    name VARCHAR(100) NOT NULL,  
    address VARCHAR(255)  
);
```

```
CREATE TABLE Employee (  
    ssn CHAR(11) PRIMARY KEY, -- Format like '123-45-6789'  
    name VARCHAR(100) NOT NULL,  
    salary DECIMAL(10, 2)  
);
```

```
-- Projects Table
```

```
CREATE TABLE Project (  
    project_id INT PRIMARY KEY,  
    name VARCHAR(100) NOT NULL,  
    budget DECIMAL(12, 2),  
    duration_years INT,  
    agency_id INT,  
    manager_ssn CHAR(11),  
    FOREIGN KEY (agency_id) REFERENCES FundingAgency(agency_id),  
    FOREIGN KEY (manager_ssn) REFERENCES Employee(ssn),  
    UNIQUE (name, agency_id) -- Project name is unique within an agency  
);
```

```
-- Works_On Table (Employee-Project many-to-many)
```

```
CREATE TABLE Works_On (  
    ssn CHAR(11),  
    project_id INT,  
    hours_per_week DECIMAL(4,1),  
    PRIMARY KEY (ssn, project_id),  
    FOREIGN KEY (ssn) REFERENCES Employee(ssn),
```

```
FOREIGN KEY (project_id) REFERENCES Project(project_id)
);
```

## **SAMPLE DATA INSERTION**

```
INSERT INTO FundingAgency (agency_id, name, address) VALUES
(1, 'ISRO', 'Antariksh Bhavan, Bangalore, India'),
(2, 'NASA', '300 E St SW, Washington, DC, USA'),
(3, 'DRDO', 'Metcalfe House, Delhi, India');
```

-- Employee data

```
INSERT INTO Employee (ssn, name, salary) VALUES
('101-11-1001', 'Ananya Reddy', 72000.00),
('102-22-2002', 'Rahul Verma', 85000.00),
('103-33-3003', 'Sneha Kapoor', 69000.00),
('104-44-4004', 'Amit Joshi', 76000.00);
```

-- Project data

```
INSERT INTO Project (project_id, name, budget, duration_years, agency_id, manager_ssn)
VALUES
(501, 'Chandrayaan-3', 5500000.00, 3, 1, '101-11-1001'),
(502, 'Artemis I', 8000000.00, 4, 2, '102-22-2002'),
(503, 'Agni-V Upgrade', 4200000.00, 2, 3, '103-33-3003');
```

-- Works\_On data

```
INSERT INTO Works_On (ssn, project_id, hours_per_week) VALUES
('101-11-1001', 501, 20.0),
('102-22-2002', 502, 18.5),
('103-33-3003', 501, 10.0),
('104-44-4004', 503, 16.0),
('104-44-4004', 502, 12.0);
```

