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-- ===== TABLE CREATION =====
CREATE DATABASE research_project;
Use research_project;
-- Funding Agencies Table
CREATE TABLE FundingAgency (
    agency_id INT PRIMARY KEY,
    name VARCHAR(100) NOT NULL,
    address VARCHAR(255)
);

-- Employees Table
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 =====

-- FundingAgency data
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);
```

