IMPLEMENTATION IN MYSQL

SPACE DEBRIS MANAGEMENT

Group 18

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Percentage of Effort Contributed by Student l: 50%

Percentage of Effort Contributed by Student 2: 50%

Signature of Student 1: 

Signature of Student 2: 

Submission Date: 12 November, 2023

CODE:

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-- Creating 'orbit' table
CREATE TABLE orbit (
    orbit_ID INT PRIMARY KEY NOT NULL,
    O_altitude FLOAT,
    O_inclination INT,
    O_period INT
);

-- Creating 'space_debris' table
CREATE TABLE space_debris (
    debris_ID INT PRIMARY KEY NOT NULL,
    D_size INT,
    D_mass INT,
    D_origin VARCHAR(255),
    D_last_observed DATE
);

-- Creating 'present_in' table
CREATE TABLE present_in (
    orbit_ID INT,
    debris_ID INT,
    PRIMARY KEY (orbit_ID, debris_ID),
    FOREIGN KEY (orbit_ID) REFERENCES orbit(orbit_ID),
    FOREIGN KEY (debris_ID) REFERENCES space_debris(debris_ID)
);

-- Creating 'rocket' table
CREATE TABLE rocket (
    rocket_debris_ID INT PRIMARY KEY,
    R_name VARCHAR(255),
    R_launchdate DATE,
    R_payload_capacity INT,
    FOREIGN KEY (rocket_debris_ID) REFERENCES space_debris(debris_ID)
);

-- Creating 'satellite' table
CREATE TABLE satellite (
    satellite_debris_ID INT PRIMARY KEY,
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    S_name VARCHAR(255),
    S_status VARCHAR(255),
    S_launchdate DATE,
    S_mass INT,
    FOREIGN KEY (satellite_debris_ID) REFERENCES space_debris(debris_ID)
);


-- Creating 'launch_license' table
CREATE TABLE launch_license (
    license_ID INT PRIMARY KEY NOT NULL,
    L_issue_date DATE,
    L_expiry_date DATE,
    L_purpose VARCHAR(255)
);


-- Creating 'space_agency' table
CREATE TABLE space_agency (
    agency_ID INT PRIMARY KEY NOT NULL,
    A_name VARCHAR(255),
    A_location VARCHAR(255),
    license_ID INT,
    FOREIGN KEY (license_ID) REFERENCES launch_license(license_ID)
);


-- Creating 'launch_facility' table
CREATE TABLE launch_facility (
    facility_ID INT PRIMARY KEY NOT NULL,
    F_name VARCHAR(255),
    F_launchdate DATE,
    F_location VARCHAR(255)
);

-- Creating 'tracking_station' table
CREATE TABLE tracking_station (
    station_ID INT PRIMARY KEY NOT NULL,
    T_name VARCHAR(255),
    T_location VARCHAR(255)
);

-- Creating 'country' table
CREATE TABLE country (
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    country_ID INT PRIMARY KEY NOT NULL,
    C_name VARCHAR(255),
    C_ISO VARCHAR(255),
    agency_ID INT,
    station_ID INT,
    facility_ID INT,
    FOREIGN KEY (agency_ID) REFERENCES space_agency(agency_ID),
    FOREIGN KEY (station_ID) REFERENCES tracking_station(station_ID),
    FOREIGN KEY (facility_ID) REFERENCES launch_facility(facility_ID)
);


-- Creating 'sensor' table
CREATE TABLE sensor (
    sensor_ID INT PRIMARY KEY,
    sen_type VARCHAR(255),
    sen_detection_range INT,
    sen_detection_frequency INT,
    orbit_ID INT,
    country_ID INT,
    FOREIGN KEY (orbit_ID) REFERENCES orbit(orbit_ID),
    FOREIGN KEY (country_ID) REFERENCES country(country_ID)
);

-- Creating 'organization' table
CREATE TABLE organization (
    organization_ID INT PRIMARY KEY,
    O_name VARCHAR(255),
    O_location VARCHAR(255),
    O_contact VARCHAR(255)
);

-- Creating 'reports_to' table
CREATE TABLE reports_to (
    organization_ID INT,
    country_ID INT,
    PRIMARY KEY (organization_ID, country_ID),
    FOREIGN KEY (organization_ID) REFERENCES organization(organization_ID),
    FOREIGN KEY (country_ID) REFERENCES country(country_ID)
);


-- Creating 'manufacturer' table
CREATE TABLE manufacturer (
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    manufacturer_ID INT PRIMARY KEY NOT NULL,
    M_name VARCHAR(255),
    M_location VARCHAR(255),
    M_contact VARCHAR(255)
);

-- Creating 'country_manufacturer' table
CREATE TABLE country_manufacturer (
    country_ID INT,
    manufacturer_ID INT,
    PRIMARY KEY (country_ID, manufacturer_ID),
    FOREIGN KEY (country_ID) REFERENCES country(country_ID),
    FOREIGN KEY (manufacturer_ID) REFERENCES manufacturer(manufacturer_ID)
);



INSERT INTO Orbit (Orbit_Id, O_Altitude, O_Inclination, O_Period) VALUES
(1, 75573096.26, 18657393.29, 34560278.21),
(2, 53592737.29, 94774970.66, 17294337.26),
(3, 80929484.33, 83275059.04, 8496906.52),
(4, 86314989.96, 46128196.04, 25527126.45),
(5, 85444208.26, 19662222.37, 1685086.23),
(6, 22295325.98, 85218290.4, 88785781.14),
(7, 17714918.81, 91813259.65, 93713657.89),
(8, 14933164.07, 23845022.05, 27884394.25),
(9, 9600784.78, 32207947.72, 96389605.93),
(10, 24305914.9, 89556682.37, 82797180.49),
(11, 72108333.33, 557270.62, 95178955.22),
(12, 14890424.08, 57074368.34, 29315117.29),
(13, 76654964.6, 39045090.84, 94566158.73),
(14, 39963289.04, 87117323.08, 30572663.22),
(15, 49695292.79, 30794446.96, 63438497.37),
(16, 57022392.43, 68893764.13, 95758784.53),
(17, 12693638.18, 71895202.8, 99125652.02),
(18, 21653039.79, 33738793.48, 10000471.67),
(19, 82483176.31, 41893568.94, 32661766.87),
(20, 63858377.62, 98873271.47, 24792772.41),
(21, 41563575.24, 20073101.37, 12694615.14),
(22, 48996720.29, 2008747.92, 86456905.41),
(23, 77554518.92, 29233093.42, 27625389.62),
(24, 41242130.54, 69965658.21, 76081355.01),
(25, 51058135.22, 4928492.65, 35787739.82),
(26, 76488810.35, 65160817.24, 28854486.74),
(27, 53821185.44, 25656925.59, 43025215.09),
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(28, 87173473.91, 27381324.72, 4372014.35),
(29, 48931915.04, 4165746.43, 74977968.53),
(30, 4359592.36, 16467683.43, 86991902.7);

INSERT INTO Space_Debris (Debris_Id, D_Size, D_Mass, D_Origin, D_Last_observed) VALUES
(100, 59676192.11, 50627782.5, 'micro meteoroid', '2021-02-09'),
(101, 24162452.76, 76311808.23, 'launch vehicle debris', '2022-03-21'),
(102, 60907255.53, 32977925.0, 'launch vehicle debris', '2021-02-27'),
(103, 85070511.79, 21346950.03, 'micro meteoroid', '2021-02-24'),
(104, 95575034.8, 79321433.33, 'satellite breakups', '2020-12-25'),
(105, 4121951.56, 80919564.8, 'intentional destruction', '2021-08-12'),
(106, 32408910.15, 17986562.98, 'fragmentation', '2021-02-07'),
(107, 19898032.55, 68251580.56, 'fragmentation', '2022-03-08'),
(108, 1714102.09, 93130006.2, 'rocket bodies', '2022-06-06'),
(109, 53400283.14, 80973187.0, 'fragmentation', '2022-10-02'),
(110, 22338795.07, 13123221.97, 'intentional destruction', '2022-10-27'),
(111, 8732048.57, 91455960.28, 'lost equipments', '2020-12-06'),
(112, 7350035.02, 16255089.94, 'satellite breakups', '2021-01-04'),
(113, 52974283.81, 63556502.3, 'lost equipments', '2021-06-11'),
(114, 11182544.3, 85563013.5, 'micro meteoroid', '2022-08-05'),
(115, 32974370.97, 25787049.13, 'intentional destruction', '2021-11-01'),
(116, 12474901.58, 35403329.54, 'fragmentation', '2022-11-10'),
(117, 61760989.76, 6830670.02, 'micro meteoroid', '2021-09-24'),
(118, 61410707.81, 78228495.64, 'micro meteoroid', '2021-08-25'),
(119, 82957184.97, 72915968.43, 'fragmentation', '2021-10-07'),
(120, 746560.51, 77411867.47, 'rocket bodies', '2021-07-01'),
(121, 61035269.41, 86502044.13, 'fragmentation', '2021-03-25'),
(122, 71010976.75, 98140185.29, 'micro meteoroid', '2021-01-21'),
(123, 26076846.33, 63647112.24, 'launch vehicle debris', '2022-04-17'),
(124, 87111456.09, 44822320.03, 'fragmentation', '2020-11-13'),
(125, 1552288.89, 56226598.8, 'intentional destruction', '2022-09-06'),
(126, 9729129.83, 85660326.93, 'lost equipments', '2022-05-25'),
(127, 52811435.82, 94237485.71, 'fragmentation', '2022-01-31'),
(128, 46921915.82, 66692179.85, 'fragmentation', '2021-09-07'),
(129, 52269319.15, 46825808.11, 'satellite breakups', '2022-07-24'),
(130, 45446815.47, 6301933.82, 'launch vehicle debris', '2021-04-01');

select* from present_in;

INSERT INTO Rocket (Rocket_debris_Id, R_Name, R_Launchdate, R_Payload_capacity) VALUES
('001', 'Falcon 9', '2022-03-08', 96888794.44),
('002', 'Atlas V', '2020-06-03', 21881747.59),
('003', 'Delta IV', '2021-08-29', 93323675.79),

('004', 'Soyuz', '2022-04-21', 91607462.31),
('005', 'Long March 5', '2021-08-14', 63407487.15),
('006', 'Proton-M', '2020-08-21', 23186115.99),
('007', 'Ariane 5', '2021-09-01', 96477893.27),
('008', 'H-IIA', '2021-02-15', 43570870.2),
('009', 'GSLV Mk III', '2021-10-15', 94905298.8),
('010', 'Vega', '2022-01-14', 41939695.89),
('011', 'Antares', '2022-03-27', 93640450.9),
('012', 'Electron', '2022-03-16', 13871690.94),
('013', 'Minotaur', '2020-11-20', 55851856.86),
('014', 'Pegasus', '2021-04-17', 76519964.46),
('015', 'Starship', '2020-12-29', 5125770.72),
('016', 'New Shepard', '2021-02-27', 69394098.35),
('017', 'LauncherOne', '2021-09-13', 87531208.0),
('018', 'Angara', '2021-02-19', 87005437.36),
('019', 'Kuaizhou', '2021-12-15', 3163520.05),
('020', 'Hyperbola-1', '2021-01-26', 21690134.36),
('021', 'SLS', '2021-06-22', 70662645.38),
('022', 'GSLV Mk II', '2020-12-30', 60827255.23),
('023', 'Zenit', '2021-02-21', 97533860.7),
('024', 'CZ-3B', '2020-08-20', 79226054.26),
('025', 'CZ-5', '2022-01-05', 71750830.56),
('026', 'CZ-7', '2022-03-29', 42185049.46),
('027', 'CZ-11', '2022-05-06', 95650961.74),
('028', 'CZ-2F', '2022-03-06', 93258888.24),
('029', 'CZ-6', '2021-10-17', 69194060.07),
('030', 'CZ-4B', '2020-11-17', 14677508.88);

-- Display ROCKET table
SELECT * FROM ROCKET;

INSERT INTO Satellite (Satellite_Id, S_Name, S_Status, S_Launched_Date, S_Mass) VALUES
('SAT001', 'Satellite 1', 'inactive', '2021-02-13', 29617702.56),
('SAT002', 'Satellite 2', 'active', '2021-10-15', 62282918.05),
('SAT003', 'Satellite 3', 'communication failure', '2021-03-13', 98297509.44),
('SAT004', 'Satellite 4', 'active', '2021-11-07', 69730844.27),
('SAT005', 'Satellite 5', 'battery low', '2021-03-28', 37703441.25),
('SAT006', 'Satellite 6', 'under maintenance', '2020-07-25', 98905535.28),
('SAT007', 'Satellite 7', 'ready for launch', '2020-05-20', 91044577.52),
('SAT008', 'Satellite 8', 'operational', '2020-08-31', 42320812.25),
('SAT009', 'Satellite 9', 'operational', '2022-01-09', 60321428.5),
('SAT010', 'Satellite 10', 'malfunctioning', '2021-02-24', 99481309.74),
('SAT011', 'Satellite 11', 'sensor malfunction', '2022-02-18', 73995140.84),
('SAT012', 'Satellite 12', 'malfunctioning', '2021-01-12', 62876659.66),

('SAT013', 'Satellite 13', 'sensor malfunction', '2022-03-05', 93497690.03),
('SAT014', 'Satellite 14', 'software update', '2020-11-10', 34368122.69),
('SAT015', 'Satellite 15', 'communication failure', '2021-06-13', 66019143.33),
('SAT016', 'Satellite 16', 'malfunctioning', '2020-11-29', 65643428.87),
('SAT017', 'Satellite 17', 'testing', '2021-12-05', 58207469.72),
('SAT018', 'Satellite 18', 'power loss', '2021-03-20', 25215103.54),
('SAT019', 'Satellite 19', 'standby', '2022-04-03', 94358708.58),
('SAT020', 'Satellite 20', 'under maintenance', '2022-03-28', 5619273.7),
('SAT021', 'Satellite 21', 'inactive', '2021-11-08', 58044770.92),
('SAT022', 'Satellite 22', 'payload deployment', '2022-02-28', 55613031.12),
('SAT023', 'Satellite 23', 'sensor malfunction', '2022-01-11', 6610091.89),
('SAT024', 'Satellite 24', 'standby', '2022-02-17', 37799744.37),
('SAT025', 'Satellite 25', 'system reboot', '2021-06-25', 37468065.46),
('SAT026', 'Satellite 26', 'orbit deviation', '2020-11-11', 39138244.53),
('SAT027', 'Satellite 27', 'ready for launch', '2020-10-14', 59852397.33),
('SAT028', 'Satellite 28', 'system reboot', '2022-03-13', 61378886.66),
('SAT029', 'Satellite 29', 'signal interference', '2020-11-23', 23954354.6),
('SAT030', 'Satellite 30', 'payload deployment', '2020-10-23', 56998366.17);

-- Display SATELLITE table
SELECT * FROM SATELLITE;

INSERT INTO Launch_License (License_Id, L_Issue_date, L_Expiry_date, L_Purpose) VALUES
('LLN41', '9/9/2022', '10/27/2022', 'Exploration'),
('LLN42', '6/15/2019', '3/24/2022', 'International collaboration'),
('LLN43', '2/17/2022', '11/26/2020', 'Technology demonstration'),
('LLN44', '11/21/2020', '12/6/2020', 'Technology demonstration'),
('LLN45', '11/16/2020', '11/10/2019', 'Astronomy observation'),
('LLN46', '5/20/2019', '5/5/2023', 'Astronomy observation'),
('LLN47', '12/4/2018', '7/28/2022', 'Exploration'),
('LLN48', '4/7/2021', '7/17/2021', 'Exploration'),
('LLN49', '9/28/2022', '9/5/2021', 'Commercial satellite launch'),
('LLN50', '8/12/2020', '11/22/2019', 'Astronomy observation'),
('LLN51', '4/19/2022', '5/3/2022', 'Astronomy observation'),
('LLN52', '9/6/2020', '7/14/2022', 'Scientific research'),
('LLN53', '9/22/2021', '9/14/2019', 'Commercial satellite launch'),
('LLN54', '10/28/2022', '2/11/2020', 'Technology demonstration'),
('LLN55', '3/12/2019', '6/22/2023', 'Educational mission'),
('LLN56', '12/2/2018', '10/15/2023', 'Military reconnaissance'),
('LLN57', '2/19/2020', '3/5/2019', 'International collaboration'),
('LLN58', '5/15/2020', '2/6/2021', 'Military reconnaissance'),
('LLN59', '8/18/2022', '4/11/2022', 'Scientific research'),
('LLN60', '3/18/2019', '3/8/2020', 'Space tourism'),

('LLN61', '5/30/2020', '3/5/2020', 'Space tourism'),
('LLN62', '5/17/2022', '7/1/2022', 'Military reconnaissance'),
('LLN63', '7/2/2022', '8/9/2021', 'Technology demonstration'),
('LLN64', '6/13/2022', '3/5/2022', 'International collaboration'),
('LLN65', '4/2/2019', '8/19/2019', 'Satellite deployment'),
('LLN66', '1/20/2022', '9/23/2019', 'Space tourism'),
('LLN67', '3/21/2021', '6/26/2020', 'Scientific research'),
('LLN68', '11/11/2021', '7/4/2022', 'Scientific research'),
('LLN69', '3/13/2022', '8/21/2023', 'Exploration'),
('LLN70', '7/30/2021', '12/18/2021', 'Commercial satellite launch');

-- Display LAUNCH_LICENSE table
SELECT * FROM LAUNCH_LICENSE;

INSERT INTO Space_Agency (Agency_Id, A_Name, A_Location) VALUES
('AG001', 'NASA', 'India'),
('AG002', 'ESA', 'United States'),
('AG003', 'ISRO', 'Brazil'),
('AG004', 'JAXA', 'United States'),
('AG005', 'CNSA', 'Japan'),
('AG006', 'ROSCOSMOS', 'Japan'),
('AG007', 'SPACEX', 'Canada'),
('AG008', 'BOEING', 'Brazil'),
('AG009', 'BLUEO', 'European Union'),
('AG010', 'ORION', 'Japan'),
('AG011', 'VOSTO', 'Canada'),
('AG012', 'TITAN', 'India'),
('AG013', 'LYNX', 'Russia'),
('AG014', 'ZEPHY', 'European Union'),
('AG015', 'ASTRA', 'European Union'),
('AG016', 'VECTOR', 'Canada'),
('AG017', 'ORBIT', 'European Union'),
('AG018', 'SKYLA', 'European Union'),
('AG019', 'NOVAE', 'United States'),
('AG020', 'COSMI', 'Australia'),
('AG021', 'APOLI', 'Canada'),
('AG022', 'ALPHA', 'Australia'),
('AG023', 'GAMMA', 'United States'),
('AG024', 'DELTA', 'European Union'),
('AG025', 'SIGMA', 'China'),
('AG026', 'OMEGA', 'Canada'),
('AG027', 'VENUS', 'Australia'),
('AG028', 'MARS', 'China'),

('AG029', 'PLUTO', 'Japan'),
('AG030', 'NASA', 'Japan');

-- Display SPACE_AGENCY table
SELECT * FROM SPACE_AGENCY;

INSERT INTO Launch_Facility (Facility_Id, F_Name, F_Launched_Date, F_Location) VALUES
('LF0061', 'Alpha Spaceport', '2021-03-18', 'Canada'),
('LF0062', 'Stellar Launch Facility', '2020-08-25', 'Australia'),
('LF0063', 'Cosmo Launch Center', '2018-11-02', 'France'),
('LF0064', 'Galaxy Spaceport', '2022-04-07', 'France'),
('LF0065', 'Starlight Launch Site', '2019-07-27', 'Australia'),
('LF0066', 'Nebula Launch Facility', '2019-05-12', 'Russia'),
('LF0067', 'Orion Spaceport', '2021-02-19', 'United States'),
('LF0068', 'Celestial Launch Center', '2022-01-29', 'Canada'),
('LF0069', 'Aurora Spaceport', '2022-03-18', 'Russia'),
('LF0070', 'Lunar Launch Facility', '2022-01-25', 'Germany'),
('LF0071', 'Comet Spaceport', '2022-02-21', 'Canada'),
('LF0072', 'Solaris Launch Site', '2022-04-14', 'China'),
('LF0073', 'Supernova Spaceport', '2018-11-30', 'United States'),
('LF0074', 'Nova Launch Facility', '2021-07-19', 'United States'),
('LF0075', 'Astro Launch Center', '2020-09-26', 'Brazil'),
('LF0076', 'Saturn Spaceport', '2020-10-10', 'Australia'),
('LF0077', 'Meteor Launch Facility', '2019-04-18', 'Japan'),
('LF0078', 'Voyager Spaceport', '2019-06-12', 'China'),
('LF0079', 'Infinity Launch Center', '2020-04-23', 'Russia'),
('LF0080', 'Pulsar Spaceport', '2020-02-04', 'Brazil'),
('LF0081', 'Andromeda Launch Facility', '2020-07-17', 'Russia'),
('LF0082', 'Cosmic Launch Center', '2021-05-05', 'Japan'),
('LF0083', 'Galactic Spaceport', '2020-04-10', 'India'),
('LF0084', 'Stardust Launch Facility', '2020-08-04', 'Russia'),
('LF0085', 'Uranus Spaceport', '2019-02-07', 'Russia'),
('LF0086', 'Milky Way Launch Center', '2021-11-16', 'France'),
('LF0087', 'Eclipse Spaceport', '2022-06-06', 'Australia'),
('LF0088', 'Mercury Launch Facility', '2019-06-01', 'India'),
('LF0089', 'Zodiac Spaceport', '2021-08-14', 'France'),
('LF0090', 'Apollo Launch Center', '2021-11-24', 'Canada');

-- Display LAUNCH_FACILITY table
SELECT * FROM LAUNCH_FACILITY;

INSERT INTO Tracking Station (Station_Id, T_Name, T_Location) VALUES
('TS850', 'Alpha Station', 'United Kingdom'),

('TS851', 'Beta Station', 'Japan'),
('TS852', 'Gamma Station', 'Japan'),
('TS853', 'Delta Station', 'India'),
('TS854', 'Epsilon Station', 'United States'),
('TS855', 'Zeta Station', 'Germany'),
('TS856', 'Eta Station', 'United Kingdom'),
('TS857', 'Theta Station', 'Brazil'),
('TS858', 'Iota Station', 'France'),
('TS859', 'Kappa Station', 'United Kingdom'),
('TS860', 'Lambda Station', 'India'),
('TS861', 'Mu Station', 'South Africa'),
('TS862', 'Nu Station', 'India'),
('TS863', 'Xi Station', 'Japan'),
('TS864', 'Omicron Station', 'India'),
('TS865', 'Pi Station', 'South Africa'),
('TS866', 'Rho Station', 'United Kingdom'),
('TS867', 'Sigma Station', 'India'),
('TS868', 'Tau Station', 'Japan'),
('TS869', 'Upsilon Station', 'United States'),
('TS870', 'Phi Station', 'Brazil'),
('TS871', 'Chi Station', 'India'),
('TS872', 'Psi Station', 'India'),
('TS873', 'Omega Station', 'India'),
('TS874', 'Solaris Station', 'Brazil'),
('TS875', 'Stellar Station', 'South Africa'),
('TS876', 'Galaxy Station', 'Brazil'),
('TS877', 'Nebula Station', 'Brazil'),
('TS878', 'Cosmos Station', 'Canada'),
('TS879', 'Orion Station', 'France');

-- Display TRACKING_STATION table
SELECT * FROM TRACKING_STATION;

INSERT INTO Country (Country_Id, C_Name, C_ISO) VALUES
('W00111', 'United States', 'ISO 9001:2015'),
('W00112', 'Canada', 'ISO 31000:2018'),
('W00113', 'Mexico', 'ISO 14001:2015'),
('W00114', 'Brazil', 'ISO 39001:2012'),
('W00115', 'Argentina', 'ISO 20121:2012'),
('W00116', 'United Kingdom', 'ISO 19600:2014'),
('W00117', 'Germany', 'ISO 31000:2018'),
('W00118', 'France', 'ISO 20000-1:2018'),
('W00119', 'Italy', 'ISO 10002:2018'),
('W00120', 'Spain', 'ISO 22000:2018'),

('W00121', 'Russia', 'ISO 20121:2012'),
('W00122', 'China', 'ISO 31000:2018'),
('W00123', 'Japan', 'ISO 14001:2015'),
('W00124', 'India', 'ISO 20121:2012'),
('W00125', 'Australia', 'ISO 22301:2019'),
('W00126', 'South Africa', 'ISO 26000:2010'),
('W00127', 'Nigeria', 'ISO 28000:2007'),
('W00128', 'Egypt', 'ISO 27001:2013'),
('W00129', 'Kenya', 'ISO 31000:2018'),
('W00130', 'Saudi Arabia', 'ISO 17025:2017'),
('W00131', 'United Arab Emirates', 'ISO 14001:2015'),
('W00132', 'Turkey', 'ISO 22000:2018'),
('W00133', 'South Korea', 'ISO 28000:2007'),
('W00134', 'Indonesia', 'ISO 20121:2012'),
('W00135', 'Thailand', 'ISO 26000:2010'),
('W00136', 'Vietnam', 'ISO 22301:2019'),
('W00137', 'New Zealand', 'ISO 14001:2015'),
('W00138', 'Switzerland', 'ISO 28000:2007'),
('W00139', 'Sweden', 'ISO 20000-1:2018'),
('W00140', 'Norway', 'ISO 13485:2016');

-- Display COUNTRY table
SELECT * FROM COUNTRY;

INSERT INTO Sensor (Sensor_Id, Sen_Type, Sen_Detection_Range, Sen_Detection_Frequency) VALUES
('SN551', 'current', 18114466.59, '180 Hz'),
('SN552', 'temperature', 3705055.88, '20 Hz'),
('SN553', 'pressure', 91185917.67, '150 Hz'),
('SN554', 'sound', 25395609.89, '200 Hz'),
('SN555', 'gas', 58394819.51, '220 Hz'),
('SN556', 'sound', 69601924.25, '60 Hz'),
('SN557', 'temperature', 21605405.01, '10 Hz'),
('SN558', 'temperature', 87712687.0, '200 Hz'),
('SN559', 'infrared', 21966670.91, '110 Hz'),
('SN560', 'barometer', 98138795.56, '130 Hz'),
('SN561', 'pressure', 26547012.46, '270 Hz'),
('SN562', 'light', 74416404.7, '250 Hz'),
('SN563', 'proximity', 15889732.03, '200 Hz'),
('SN564', 'proximity', 47160220.05, '160 Hz'),
('SN565', 'vibration', 84292007.73, '270 Hz'),
('SN566', 'gyroscope', 72619183.02, '50 Hz'),
('SN567', 'gas', 2361222.32, '90 Hz'),
('SN568', 'humidity', 60741978.15, '300 Hz'),
('SN569', 'vibration', 43905234.31, '210 Hz'),

('SN570', 'sound', 92002727.49, '110 Hz'),
('SN571', 'gas', 25524168.36, '210 Hz'),
('SN572', 'heart rate', 29935489.13, '230 Hz'),
('SN573', 'current', 93200855.84, '100 Hz'),
('SN574', 'proximity', 99955907.26, '180 Hz'),
('SN575', 'humidity', 93453786.87, '230 Hz'),
('SN576', 'moisture', 42408760.09, '30 Hz'),
('SN577', 'proximity', 44473002.31, '170 Hz'),
('SN578', 'barometer', 63187970.59, '190 Hz'),
('SN579', 'speed', 4139282.56, '260 Hz'),
('SN580', 'proximity', 29556598.7, '80 Hz');

-- Display SENSOR table
SELECT * FROM SENSOR;

INSERT INTO Organization (Organization_Id, O_Name, O_Location, O_Contact) VALUES
('SP961', 'Stellar Systems', 'Tokyo', '309-645-1256'),
('SP962', 'Galactic Enterprises', 'Mumbai', '611-532-0829'),
('SP963', 'Cosmic Ventures', 'Mumbai', '852-367-0844'),
('SP964', 'Celestial Innovations', 'Dubai', '334-357-3610'),
('SP965', 'Nebula Corporation', 'New York', '737-123-5285'),
('SP966', 'AstroTech', 'Dubai', '842-404-0867'),
('SP967', 'Starbound Solutions', 'Rio de Janeiro', '389-308-4833'),
('SP968', 'Lunar Enterprises', 'Rio de Janeiro', '113-739-7324'),
('SP969', 'Solar Nexus', 'Mumbai', '408-146-8508'),
('SP970', 'Interstellar Holdings', 'Mumbai', '780-691-8487'),
('SP971', 'Orion Industries', 'London', '396-604-4017'),
('SP972', 'Nova Enterprises', 'Tokyo', '245-250-2192'),
('SP973', 'Cosmos Corporation', 'New York', '817-750-7309'),
('SP974', 'Astro Dynamics', 'Dubai', '764-143-7956'),
('SP975', 'Galaxy Group', 'Tokyo', '849-863-2692'),
('SP976', 'Comet Enterprises', 'Dubai', '172-120-1968'),
('SP977', 'Saturn Solutions', 'Tokyo', '786-965-4374'),
('SP978', 'Andromeda Innovations', 'New York', '202-433-5356'),
('SP979', 'Milky Way Enterprises', 'Tokyo', '744-497-0441'),
('SP980', 'Solaris Corporation', 'Toronto', '985-218-4721'),
('SP981', 'Supernova Systems', 'Sydney', '626-404-1661'),
('SP982', 'Cosmic Connections', 'Paris', '990-541-7190'),
('SP983', 'Aurora Enterprises', 'Rio de Janeiro', '873-238-8696'),
('SP984', 'Pulsar Innovations', 'Tokyo', '139-394-1417'),
('SP985', 'Nebula Nexus', 'Sydney', '395-177-3133'),
('SP986', 'AstroTech Solutions', 'Dubai', '202-363-5941'),
('SP987', 'Starlight Holdings', 'London', '449-547-9344'),
('SP988', 'Celestial Innovations', 'Tokyo', '689-426-3619'),

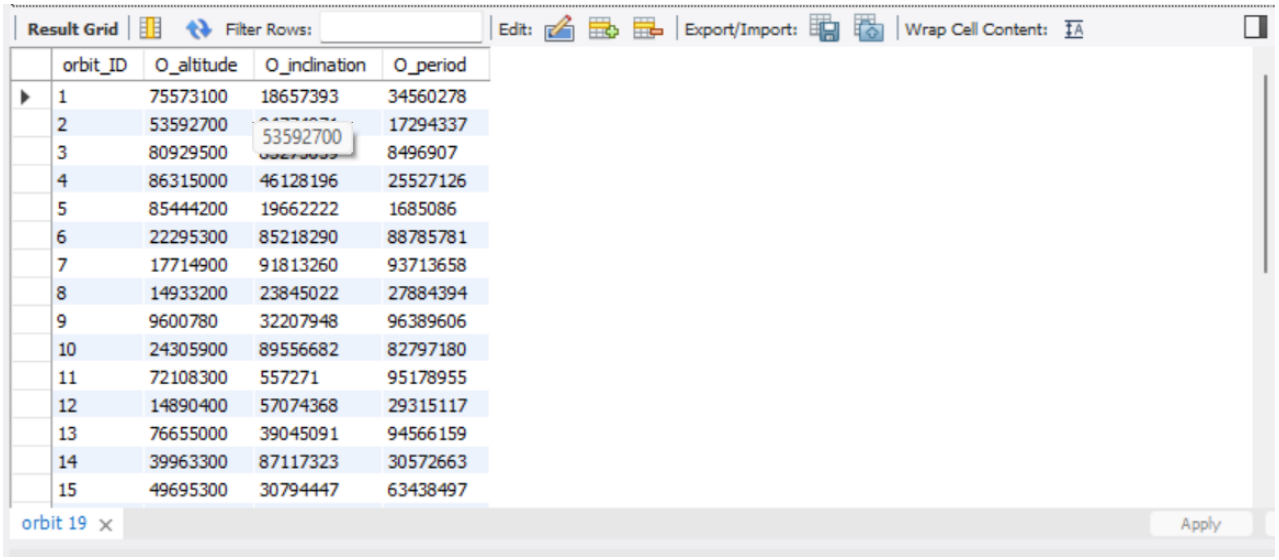
```
('SP989', 'Galactic Nexus', 'Berlin', '850-139-7035'),
('SP990', 'Stellar Solutions', 'Berlin', '805-556-9241');

-- Display ORGANIZATION table
SELECT * FROM ORGANIzATION;

 -- Display REPORTS_TO table
SELECT * FROM REPORTS_TO;

INSERT INTO Manufacturer (Manufacturer_Id, M_Name, M_Location, M_Contact) VALUES
('MN331', 'GalacticTech', 'Australia', '717-613-6942'),
('MN332', 'StellarSystems', 'Australia', '268-784-2884'),
('MN333', 'CosmoParts', 'Brazil', '709-390-0377'),
('MN334', 'AstroTech', 'United States', '992-509-1057'),
('MN335', 'StarForge', 'Germany', '778-972-0515'),
('MN336', 'CelestialMakers', 'India', '927-877-1250'),
('MN337', 'NebulaIndustries', 'Italy', '803-594-9140'),
('MN338', 'OrbitTech', 'Australia', '415-211-6751'),
('MN339', 'LunarCraft', 'Japan', '798-631-7928'),
('MN340', 'SaturnSolutions', 'China', '331-249-8680'),
('MN341', 'CometComponents', 'India', '455-904-9869'),
('MN342', 'SolarTech', 'Italy', '671-458-5883'),
('MN343', 'AeroSpace', 'Canada', '107-325-0379'),
('MN344', 'PlanetParts', 'Germany', '634-349-2532'),
('MN345', 'RocketRise', 'France', '279-681-8564'),
('MN346', 'AstroDynamics', 'Japan', '601-665-2084'),
('MN347', 'CosmicCraft', 'United States', '336-875-3719'),
('MN348', 'GalaxyGears', 'India', '880-383-1864'),
('MN349', 'SpaceWorks', 'Germany', '834-422-6473'),
('MN350', 'StarTech', 'Germany', '941-932-7652'),
('MN351', 'OrionIndustries', 'Japan', '902-186-6639'),
('MN352', 'MilkyWayMakers', 'Australia', '151-676-0569'),
('MN353', 'NovaTech', 'United States', '272-448-1819'),
('MN354', 'AstroForge', 'India', '373-868-3138'),
('MN355', 'SatelliteSystems', 'Brazil', '950-301-9850'),
('MN356', 'CosmoCraft', 'United States', '995-227-4125'),
('MN357', 'InterstellarIndustries', 'Canada', '664-283-5279'),
('MN358', 'SpaceXpress', 'Australia', '252-991-3112'),
('MN359', 'AstroTech', 'India', '302-845-3514'),
('MN360', 'CosmicComponents', 'United States', '846-192-5293');

-- Display MANUFACTURER table
SELECT * FROM MANUFACTURER;
```

-- Display COUNTRY_MANUFACTURER table

SELECT * FROM COUNTRY_MANUFACTURER;

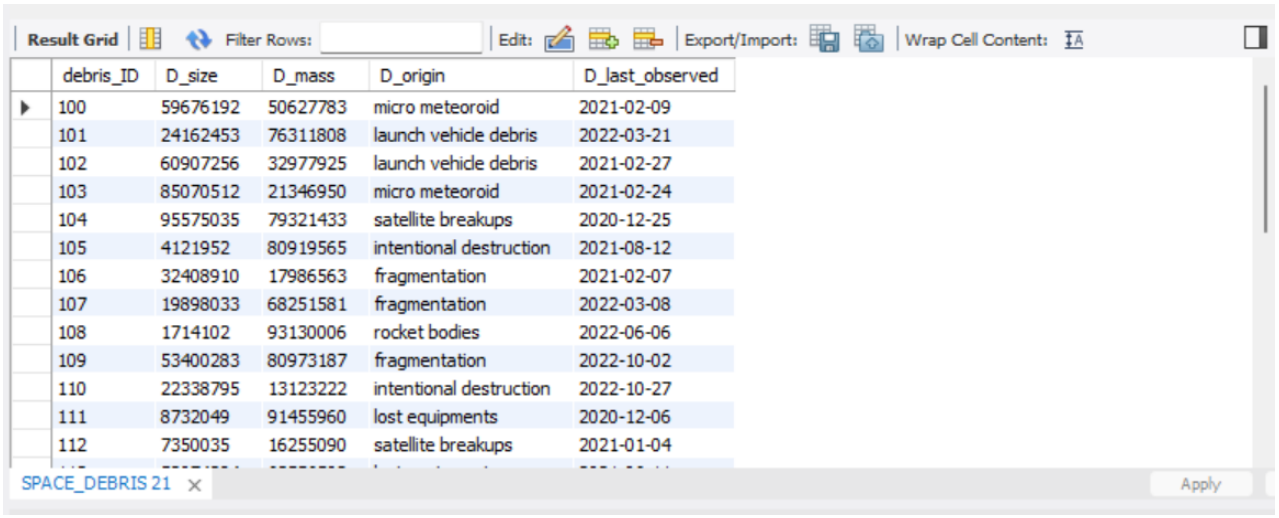
SQL QUERIES:

SELECT* FROM ORBIT;



orbit_ID	O_altitude	O_inclination	O_period
1	75573100	18657393	34560278
2	53592700	[illegible]	17294337
3	80929500	[illegible]	8496907
4	86315000	46128196	25527126
5	85444200	19662222	1685086
6	22295300	85218290	88785781
7	17714900	91813260	93713658
8	14933200	23845022	27884394
9	9600780	32207948	96389606
10	24305900	89556682	82797180
11	72108300	557271	95178955
12	14890400	57074368	29315117
13	76655000	39045091	94566159
14	39963300	87117323	30572663
15	49695300	30794447	63438497

SELECT* FROM SPACE_DEBRIS;



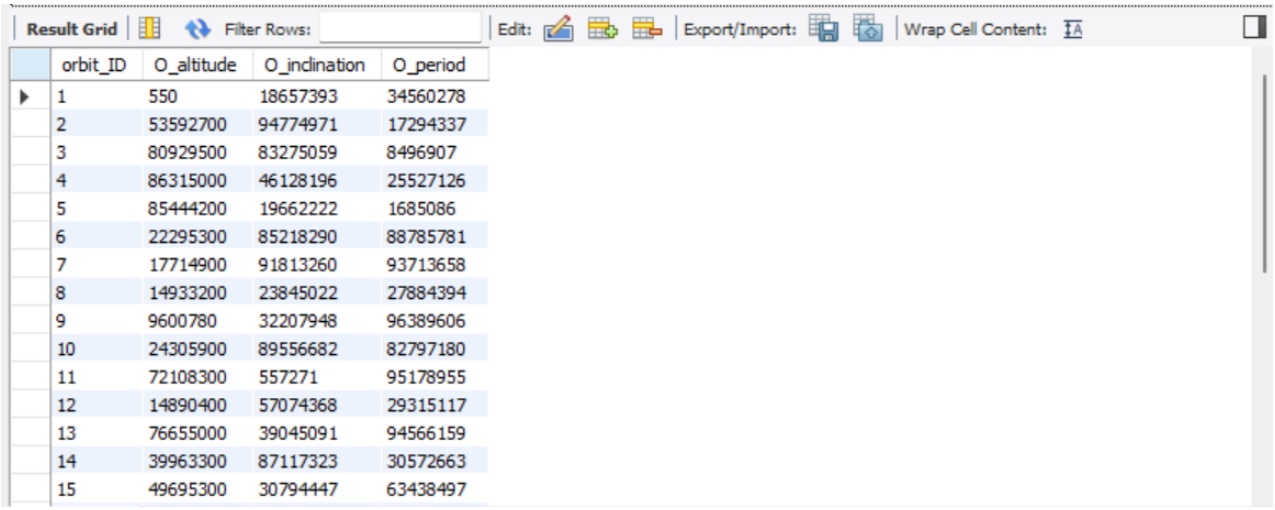
debris_ID	D_size	D_mass	D_origin	D_last_observed
100	59676192	50627783	micro meteoroid	2021-02-09
101	24162453	76311808	launch vehicle debris	2022-03-21
102	60907256	32977925	launch vehicle debris	2021-02-27
103	85070512	21346950	micro meteoroid	2021-02-24
104	95575035	79321433	satellite breakups	2020-12-25
105	4121952	80919565	intentional destruction	2021-08-12
106	32408910	17986563	fragmentation	2021-02-07
107	19898033	68251581	fragmentation	2022-03-08
108	1714102	93130006	rocket bodies	2022-06-06
109	53400283	80973187	fragmentation	2022-10-02
110	22338795	13123222	intentional destruction	2022-10-27
111	8732049	91455960	lost equipments	2020-12-06
112	7350035	16255090	satellite breakups	2021-01-04

UPDATE Orbit

SET O_Altitude = 550

WHERE Orbit_Id = 1;

SELECT* FROM ORBIT;

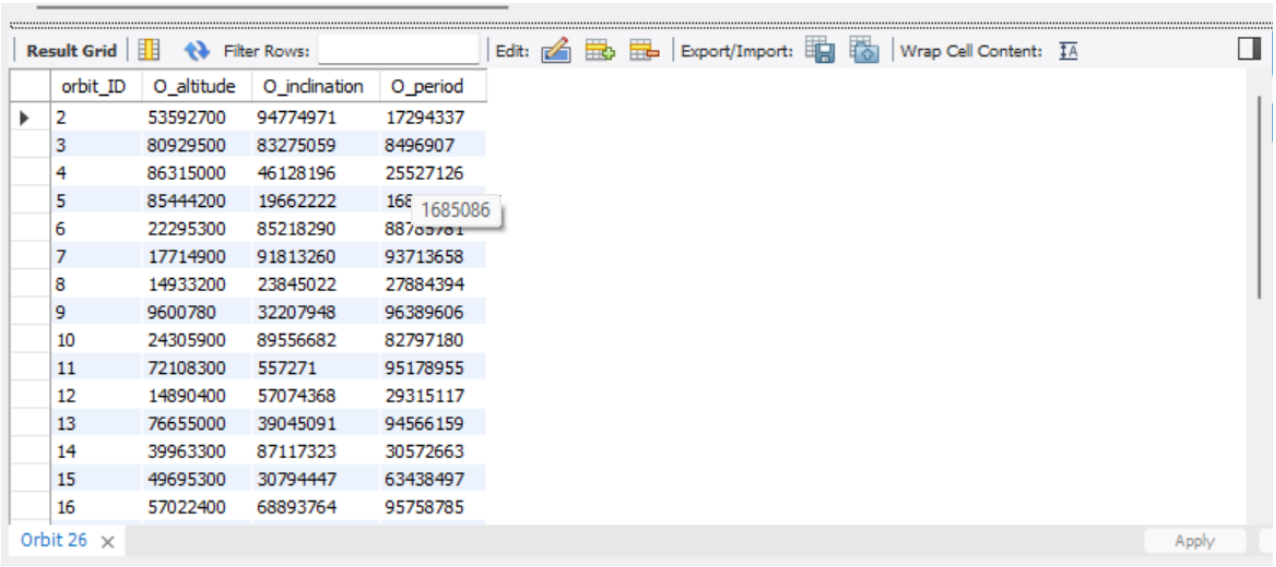


orbit_ID	O_altitude	O_inclination	O_period
1	550	18657393	34560278
2	53592700	94774971	17294337
3	80929500	83275059	8496907
4	86315000	46128196	25527126
5	85444200	19662222	1685086
6	22295300	85218290	88785781
7	17714900	91813260	93713658
8	14933200	23845022	27884394
9	9600780	32207948	96389606
10	24305900	89556682	82797180
11	72108300	557271	95178955
12	14890400	57074368	29315117
13	76655000	39045091	94566159
14	39963300	87117323	30572663
15	49695300	30794447	63438497

SELECT *

FROM Orbit

WHERE O_Altitude > 550;

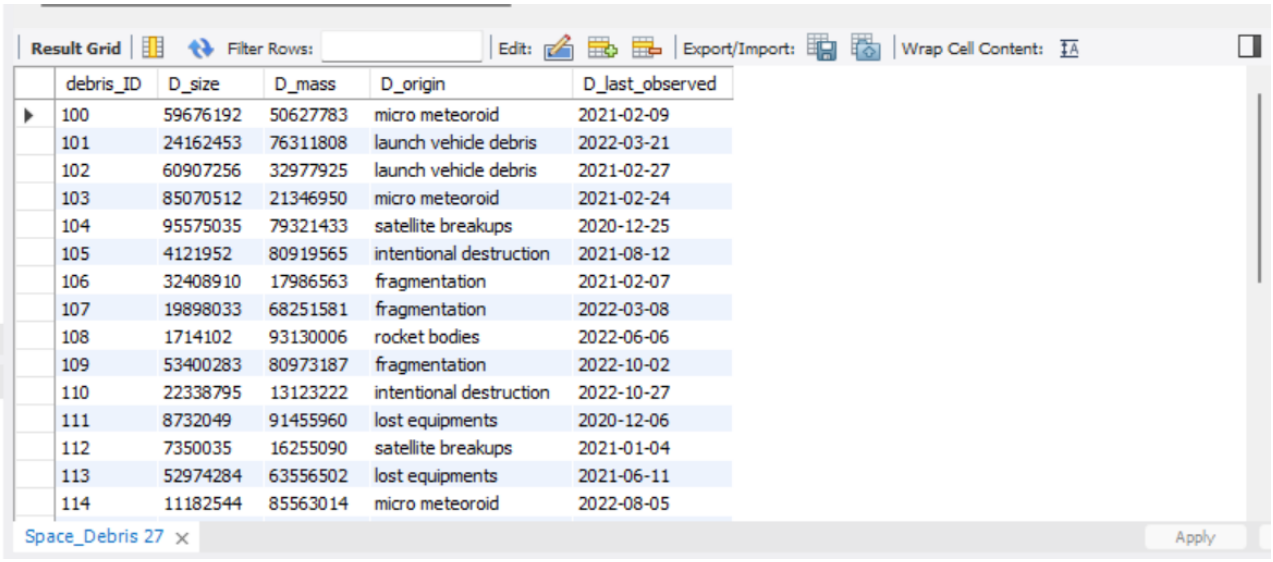


orbit_ID	O_altitude	O_inclination	O_period
2	53592700	94774971	17294337
3	80929500	83275059	8496907
4	86315000	46128196	25527126
5	85444200	19662222	168
6	22295300	85218290	887
7	17714900	91813260	93713658
8	14933200	23845022	27884394
9	9600780	32207948	96389606
10	24305900	89556682	82797180
11	72108300	557271	95178955
12	14890400	57074368	29315117
13	76655000	39045091	94566159
14	39963300	87117323	30572663
15	49695300	30794447	63438497
16	57022400	68893764	95758785

SELECT *

FROM Space_Debris

WHERE D_mass > 4.0;



debris_ID	D_size	D_mass	D_origin	D_last_observed
100	59676192	50627783	micro meteoroid	2021-02-09
101	24162453	76311808	launch vehicle debris	2022-03-21
102	60907256	32977925	launch vehicle debris	2021-02-27
103	85070512	21346950	micro meteoroid	2021-02-24
104	95575035	79321433	satellite breakups	2020-12-25
105	4121952	80919565	intentional destruction	2021-08-12
106	32408910	17986563	fragmentation	2021-02-07
107	19898033	68251581	fragmentation	2022-03-08
108	1714102	93130006	rocket bodies	2022-06-06
109	53400283	80973187	fragmentation	2022-10-02
110	22338795	13123222	intentional destruction	2022-10-27
111	8732049	91455960	lost equipments	2020-12-06
112	7350035	16255090	satellite breakups	2021-01-04
113	52974284	63556502	lost equipments	2021-06-11
114	11182544	85563014	micro meteoroid	2022-08-05