00. Table Design

CREATE TABLE planets(

id INT(11) PRIMARY KEY AUTO\_INCREMENT,

name VARCHAR(30) NOT NULL

);

CREATE TABLE spaceports(

id INT(11) PRIMARY KEY AUTO\_INCREMENT,

name VARCHAR(50) NOT NULL,

planet\_id INT(11)

);

CREATE TABLE spaceships(

id INT(11) PRIMARY KEY AUTO\_INCREMENT,

name VARCHAR(50) NOT NULL,

manufacturer VARCHAR(30) NOT NULL,

light\_speed\_rate INT(11) DEFAULT 0

);

CREATE TABLE colonists(

id INT(11) PRIMARY KEY AUTO\_INCREMENT,

first\_name VARCHAR(20) NOT NULL,

last\_name VARCHAR(20) NOT NULL,

ucn CHAR(10) UNIQUE NOT NULL,

birth\_date DATE NOT NULL

);

CREATE TABLE journeys(

id INT(11) PRIMARY KEY AUTO\_INCREMENT,

journey\_start DATETIME NOT NULL,

journey\_end DATETIME NOT NULL,

purpose ENUM('Medical', 'Technical', 'Educational', 'Military'),

destination\_spaceport\_id INT(11),

spaceship\_id INT(11)

);

CREATE TABLE travel\_cards(

id INT(11) PRIMARY KEY AUTO\_INCREMENT,

card\_number CHAR(10) UNIQUE NOT NULL,

job\_during\_journey ENUM('Pilot', 'Engineer', 'Trooper', 'Cleaner','Cook'),

colonist\_id INT(11),

journey\_id INT(11)

);

ALTER TABLE spaceports

ADD CONSTRAINT fk\_spaceports\_planets

FOREIGN KEY(planet\_id)

REFERENCES planets(id);

ALTER TABLE journeys

ADD CONSTRAINT fk\_journeys\_spaceports

FOREIGN KEY(destination\_spaceport\_id)

REFERENCES spaceports(id);

ALTER TABLE journeys

ADD CONSTRAINT fk\_journeys\_spaceships

FOREIGN KEY(spaceship\_id)

REFERENCES spaceships(id);

ALTER TABLE travel\_cards

ADD CONSTRAINT fk\_travel\_cards\_colonists

FOREIGN KEY(colonist\_id)

REFERENCES colonists(id);

ALTER TABLE travel\_cards

ADD CONSTRAINT fk\_travel\_cards\_journeys

FOREIGN KEY(journey\_id)

REFERENCES journeys(id);

02. Update

UPDATE journeys

SET purpose='Medical'

WHERE id%2=0;

UPDATE journeys

SET purpose='Technical'

WHERE id%3=0 and id%2!=0;

UPDATE journeys

SET purpose='Educational'

WHERE id%5=0 AND id%3!=0 AND id%2!=0;

UPDATE journeys

SET purpose='Military'

WHERE id%7=0 AND id%5!=0 AND id%3!=0 AND id%2!=0;

04. Extract all travel cards

SELECT card\_number,

job\_during\_journey

FROM travel\_cards

ORDER BY card\_number ASC;

05. Extract all colonists

SELECT id,

concat(`first\_name`,' ',`last\_name`) AS full\_name,

ucn

FROM colonists

ORDER BY full\_name, id;

06. Extract all military journeys

SELECT id,

journey\_start,

journey\_end

FROM journeys

WHERE purpose='Military'

ORDER BY journey\_start;

07. Extract all pilots

SELECT c.id,

concat(c.`first\_name`,' ',c.`last\_name`) AS 'full\_name'

FROM colonists c

JOIN travel\_cards t

ON c.id=t.colonist\_id

WHERE t.job\_during\_journey LIKE 'Pilot'

ORDER BY id;

08. Count all colonists

SELECT count(j.id) AS 'count'

FROM journeys j

JOIN travel\_cards t

ON j.id=journey\_id

WHERE j.purpose ='Technical';

09.Extract the fastest spaceship

SELECT s.name,

sp.name

FROM spaceships s

JOIN journeys j

on s.id=spaceship\_id

JOIN spaceports sp

ON j.destination\_spaceport\_id=sp.id

ORDER BY s.light\_speed\_rate DESC

LIMIT 1;

10. Extract - pilots younger than 30 years

SELECT s.name,

s.manufacturer

FROM spaceships s

JOIN journeys j

ON s.id=j.spaceship\_id

JOIN travel\_cards t

ON j.id=t.journey\_id

JOIN colonists c

ON t.colonist\_id=c.id

WHERE t.job\_during\_journey='Pilot' AND timestampdiff(YEAR,c.birth\_date,'2019-01-01')<30

ORDER BY s.name;

11. Extract all educational mission

SELECT p.name,

s.name

FROM journeys j

JOIN spaceports s

ON j.destination\_spaceport\_id=s.id

JOIN planets p

ON p.id=s.planet\_id

WHERE j.purpose='Educational'

ORDER BY s.name DESC;

12. Extract all planets and their journey count

SELECT p.name,

COUNT(p.name) AS planet\_name

FROM planets p

JOIN spaceports s

ON p.id=s.planet\_id

JOIN journeys j

ON s.id=j.destination\_spaceport\_id

GROUP BY p.name

ORDER BY planet\_name DESC, p.name;

13. Extract the shortest journey

SELECT j.id,

p.name,

s.name,

j.purpose

#min(journey\_start-journey\_end) AS journey\_time

FROM journeys j

JOIN spaceports s

ON j.destination\_spaceport\_id=s.id

JOIN planets p

ON s.planet\_id=p.id

GROUP BY j.id

ORDER BY min(journey\_start-journey\_end) DESC

LIMIT 1;

14. Extract the less popular job

SELECT

t.job\_during\_journey

FROM journeys j

JOIN travel\_cards t

on j.id=t.journey\_id

GROUP BY j.id

ORDER BY min(journey\_start-journey\_end) ASC

LIMIT 1;