```sql
-- Checking the data

SELECT  *  FROM  dbo.Spacex;

-- Analysis

--Task 1
--Display the names of the unique launch sites in the space mission

SELECT   DISTINCT Launch_site
FROM     dbo.Spacex;

--Task 2
--Display 5 records where launch sites begin with the string 'CCA'

SELECT    TOP 5 *
FROM      dbo.Spacex
WHERE     Launch_Site LIKE  'CCA%'

--Task 3
--Display the total payload mass carried by boosters launched by NASA (CRS)

SELECT    Customer,
          SUM(CAST(PAYLOAD_MASS_KG AS INT)) AS Total_Payload
FROM      dbo.Spacex
GROUP BY  Customer
HAVING    Customer LIKE  'NASA (CRS)';

--Task 4
--Display average payload mass carried by booster version F9 v1.1

SELECT    Booster_Version,
          AVG(PAYLOAD_MASS_KG) AS avg_mass
FROM      dbo.Spacex
GROUP BY  Booster_Version
HAVING    Booster_Version  LIKE 'F9 v1.1';

--Task 5
--List the date when the first succesful landing outcome in ground pad was
  acheived.

SELECT    Landing_Outcome,
          MIN(Date) AS first_date
FROM      dbo.Spacex
GROUP BY  Landing_Outcome
HAVING    Landing_Outcome LIKE 'Success (ground pad)';

--Task 6
--List the names of the boosters which have success in drone ship and have
  payload mass greater than 4000 but less than 6000

SELECT    Payload,
          PAYLOAD_MASS_KG,
```

```
        Landing_Outcome
FROM    dbo.Spacex
WHERE   Landing_Outcome LIKE 'Success (drone ship)'
AND     PAYLOAD_MASS_KG   > 4000
AND     PAYLOAD_MASS_KG    < 6000;

--Task 7
--List the total number of successful and failure mission outcomes

SELECT    Mission_Outcome,
          COUNT(Mission_Outcome)  AS number_out_comes
FROM      DBO.Spacex
GROUP BY  Mission_Outcome
ORDER BY  number_out_comes DESC;

--Task 8
--List the names of the booster_versions which have carried the maximum payload
  mass. Use a subquery¶

SELECT    Booster_version,
          PAYLOAD_MASS_KG
FROM      dbo.Spacex
WHERE     PAYLOAD_MASS_KG IN(SELECT MAX(PAYLOAD_MASS_KG) FROM dbo.Spacex);

--Task 9
--List the records which will display the month names, failure landing_outcomes
  in drone ship ,booster versions, launch_site for the months in year 2015.

SELECT    CASE
              WHEN MONTH(DATE) = 1 THEN 'JANUARY'
              WHEN MONTH(DATE) = 2 THEN 'FEBRUARY'
              WHEN MONTH(DATE) = 3 THEN 'MARCH'
              WHEN MONTH(DATE) = 4 THEN  'APRIL'
              END AS month_name,
          Landing_Outcome,
          Booster_version,
          Launch_site
FROM      dbo.Spacex
GROUP BY  DATE,
          Landing_Outcome,
          Booster_Version,
          Launch_Site
HAVING    Landing_Outcome LIKE 'Failure (drone ship)'
AND       YEAR(DATE) =  '2015';

--Task
--Rank the count of landing outcomes (such as Failure (drone ship) or Success
  (ground pad)) between the date 2010-06-04 and 2017-03-20, in descending order.

SELECT    Landing_Outcome,
          Date,
          DENSE_RANK()OVER(PARTITION BY Landing_Outcome ORDER BY DATE DESC) AS
            Rnk
```

```
FROM       dbo.Spacex
GROUP BY   Landing_Outcome,
           Date
HAVING     Landing_Outcome IN('Failure (drone ship)', 'Success (ground pad)')
AND        Date BETWEEN '2010-06-04' AND '2017-03-20';
```