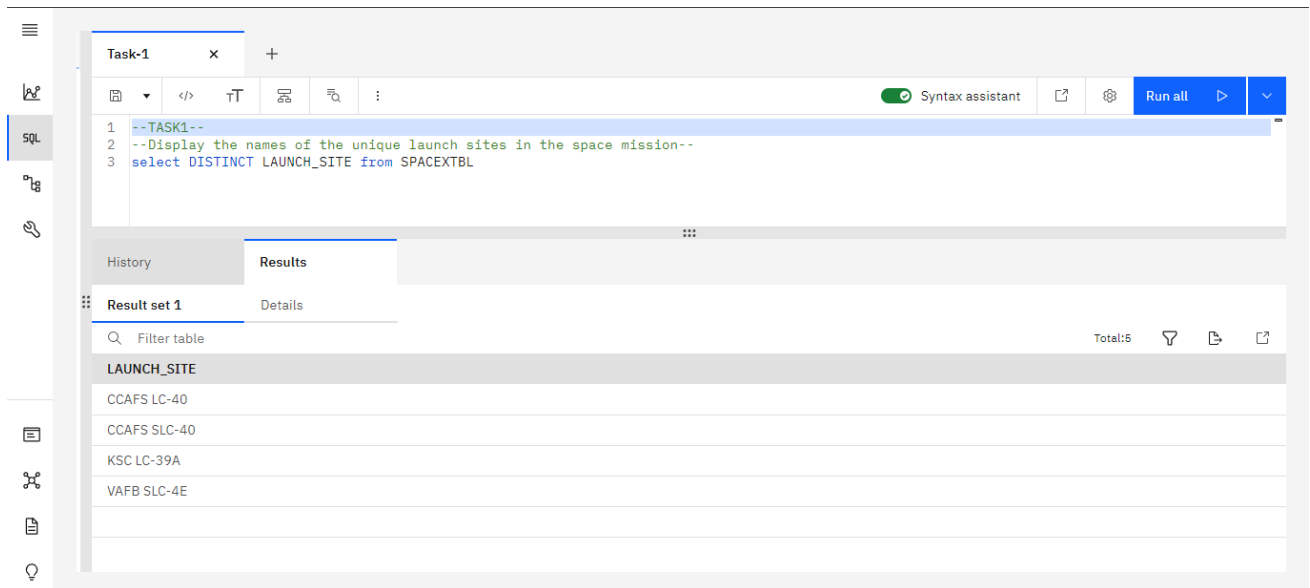


# EXPLORTARY DATA ANALYSIS WITH SQL

## Task 1

*Display the names of the unique launch sites in the space mission*



The screenshot shows a SQL IDE interface with a task named "Task-1". The SQL editor contains the following code:

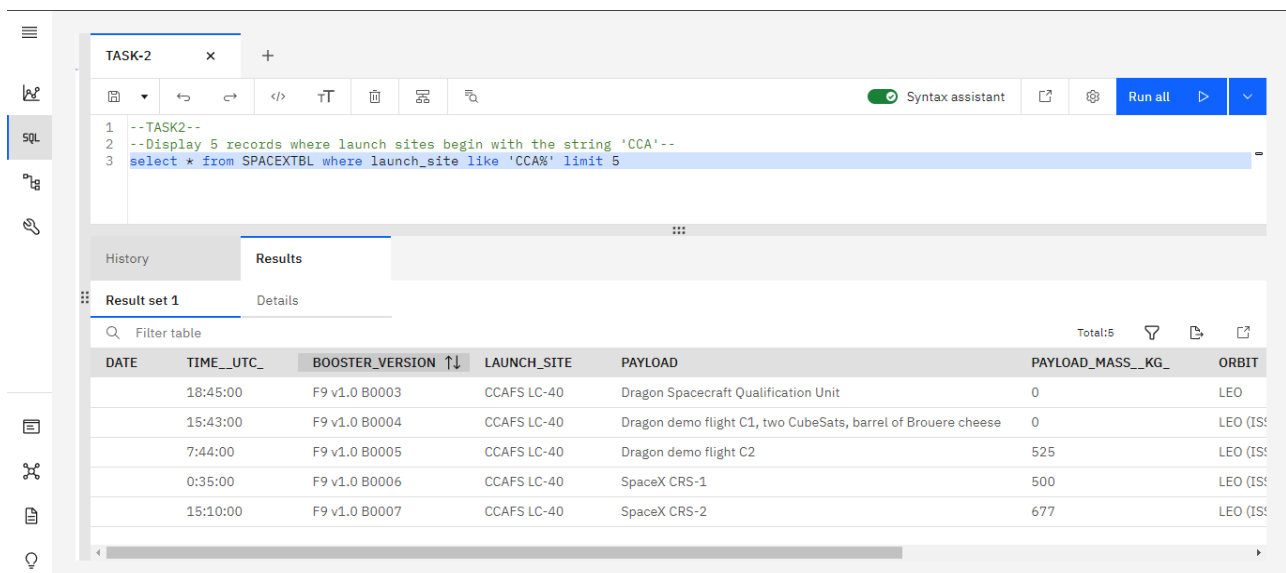
```
--TASK1--  
--Display the names of the unique launch sites in the space mission--  
select DISTINCT LAUNCH_SITE from SPACEXTBL
```

The results are displayed in a table with the following data:

LAUNCH_SITE
CCAFS LC-40
CCAFS SLC-40
KSC LC-39A
VAFB SLC-4E

## Task 2

*Display 5 records where launch sites begin with the string 'CCA'*



The screenshot shows a SQL IDE interface with a task named "TASK-2". The SQL editor contains the following code:

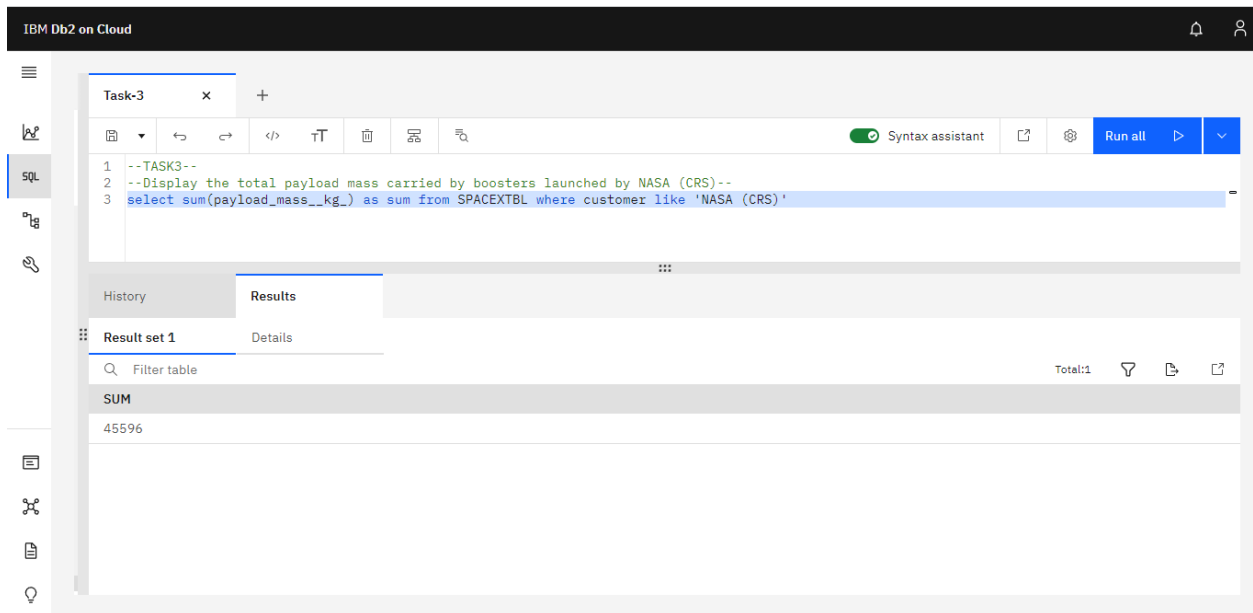
```
--TASK2--  
--Display 5 records where launch sites begin with the string 'CCA'--  
select * from SPACEXTBL where launch_site like 'CCA%' limit 5
```

The results are displayed in a table with the following data:

DATE	TIME_UTC_	BOOSTER_VERSION	LAUNCH_SITE	PAYLOAD	PAYLOAD_MASS_KG_	ORBIT
	18:45:00	F9 v1.0 B0003	CCAFS LC-40	Dragon Spacecraft Qualification Unit	0	LEO
	15:43:00	F9 v1.0 B0004	CCAFS LC-40	Dragon demo flight C1, two CubeSats, barrel of Brouere cheese	0	LEO (IS)
	7:44:00	F9 v1.0 B0005	CCAFS LC-40	Dragon demo flight C2	525	LEO (IS)
	0:35:00	F9 v1.0 B0006	CCAFS LC-40	SpaceX CRS-1	500	LEO (IS)
	15:10:00	F9 v1.0 B0007	CCAFS LC-40	SpaceX CRS-2	677	LEO (IS)

## Task 3

*Display the total payload mass carried by boosters launched by NASA (CRS)*



The screenshot shows the IBM Db2 on Cloud interface. The top bar indicates 'IBM Db2 on Cloud'. The left sidebar has icons for SQL, History, and Results. The main area displays a SQL query in a text editor with a 'Run all' button. The query is as follows:

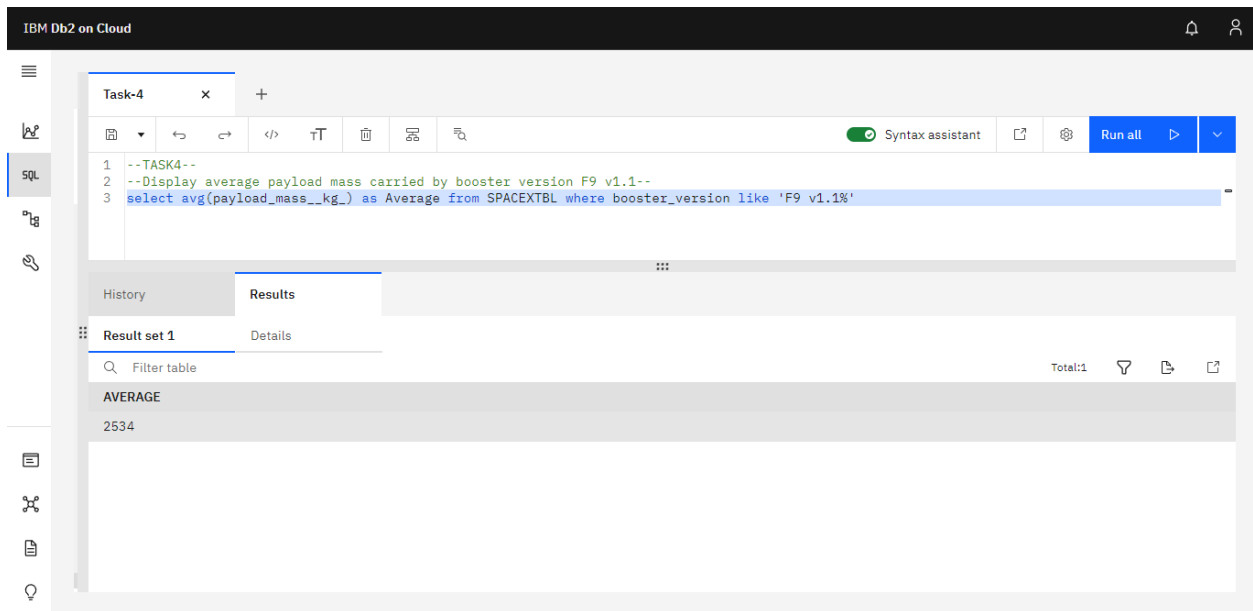
```
--TASK3--  
--Display the total payload mass carried by boosters launched by NASA (CRS)--  
select sum(payload_mass_kg_) as sum from SPACEXTBL where customer like 'NASA (CRS)'
```

The results are shown in a table with the following data:

SUM
45596

## Task 4

*Display average payload mass carried by booster version F9 v1.1*



The screenshot shows the IBM Db2 on Cloud interface. The top bar indicates 'IBM Db2 on Cloud'. The left sidebar has icons for SQL, History, and Results. The main area displays a SQL query in a text editor with a 'Run all' button. The query is as follows:

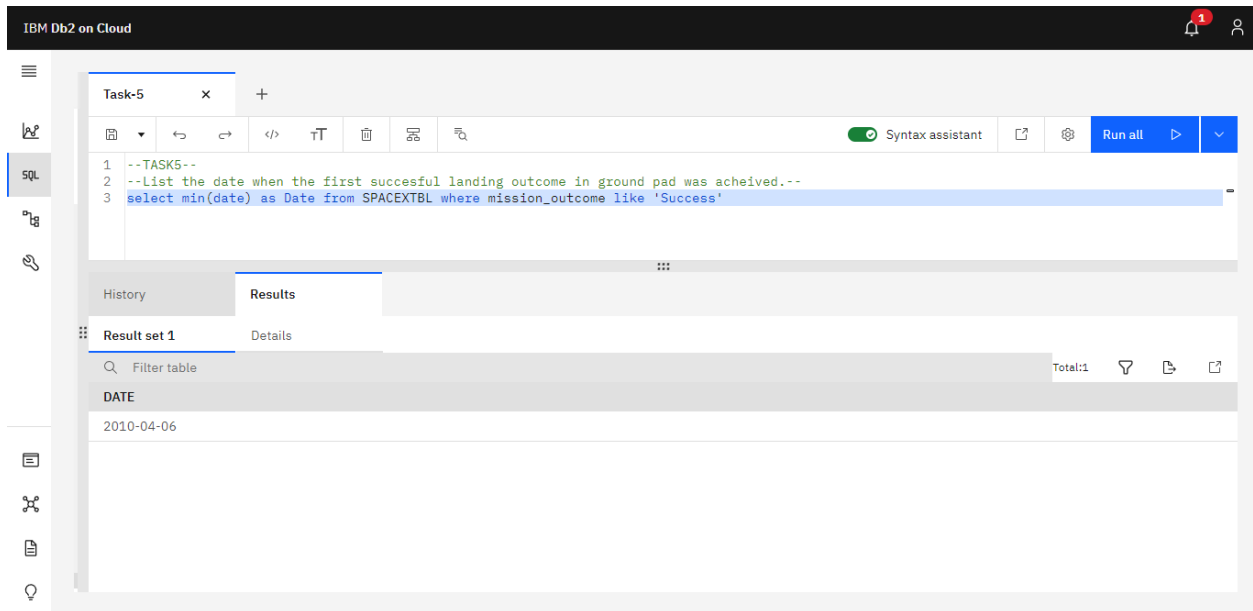
```
--TASK4--  
--Display average payload mass carried by booster version F9 v1.1--  
select avg(payload_mass_kg_) as Average from SPACEXTBL where booster_version like 'F9 v1.1%'
```

The results are shown in a table with the following data:

AVERAGE
2534

## Task 5

*List the date when the first successful landing outcome in ground pad was achieved.*



The screenshot shows the IBM Db2 on Cloud interface. The top bar indicates 'IBM Db2 on Cloud' with a notification bell and a user icon. The left sidebar contains icons for SQL, History, and Results. The main editor area is titled 'Task-5' and contains the following SQL query:

```
--TASK5--  
--List the date when the first succesful landing outcome in ground pad was acheived.--  
select min(date) as Date from SPACEXTBL where mission_outcome like 'Success'
```

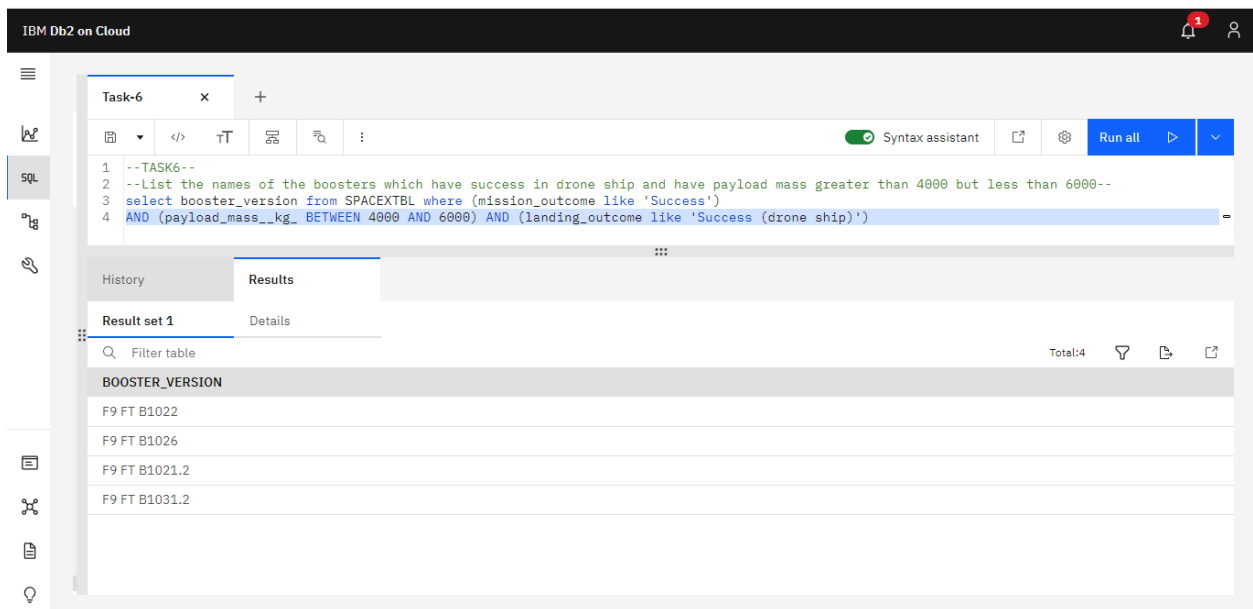
The query is executed, and the results are displayed in a table with the following data:

DATE
2010-04-06

The interface also shows a 'History' tab and a 'Results' tab. The 'Results' tab is active, showing the query results. The 'History' tab shows the query history.

## 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.*



The screenshot shows the IBM Db2 on Cloud interface. The top bar indicates 'IBM Db2 on Cloud' with a notification bell and a user icon. The left sidebar contains icons for SQL, History, and Results. The main editor area is titled 'Task-6' and contains the following SQL query:

```
--TASK6--  
--List the names of the boosters which have success in drone ship and have payload mass greater than 4000 but less than 6000--  
select booster_version from SPACEXTBL where (mission_outcome like 'Success')  
AND (payload_mass_kg_ BETWEEN 4000 AND 6000) AND (landing_outcome like 'Success (drone ship)')
```

The query is executed, and the results are displayed in a table with the following data:

BOOSTER_VERSION
F9 FT B1022
F9 FT B1026
F9 FT B1021.2
F9 FT B1031.2

The interface also shows a 'History' tab and a 'Results' tab. The 'Results' tab is active, showing the query results. The 'History' tab shows the query history.

## Task 7

*List the total number of successful and failure mission outcomes*

The screenshot shows the IBM Db2 on Cloud interface. The SQL editor contains the following query:

```
--TASK7--  
--List the total number of successful and failure mission outcomes--  
SELECT mission_outcome, count(*) as Count FROM SPACEXTBL GROUP BY mission_outcome ORDER BY mission_outcome
```

The query has been executed, and the results are displayed in a table with 4 rows. The table has two columns: MISSION\_OUTCOME and COUNT.

MISSION_OUTCOME	COUNT
Failure (in flight)	1
Success	99
Success (payload status unclear)	1
	898

## Task 8

*List the names of the booster\_versions which have carried the maximum payload mass. Use a subquery*

The screenshot shows the IBM Db2 on Cloud interface. The SQL editor contains the following query:

```
--TASK8--  
--List the names of the booster_versions which have carried the maximum payload mass. Use a subquery--  
SELECT DISTINCT BOOSTER_VERSION AS "Booster Versions" which carried the Maximum Payload Mass" FROM SPACEXTBL  
WHERE PAYLOAD_MASS_KG_ = (SELECT MAX(PAYLOAD_MASS_KG_) FROM SPACEXTBL);
```

The query has been executed, and the results are displayed in a table with 12 rows. The table has one column: Booster Versions which carried the Maximum Payload Mass.

Booster Versions which carried the Maximum Payload Mass
F9 B5 B1048.4
F9 B5 B1048.5
F9 B5 B1049.4
F9 B5 B1049.5
F9 B5 B1049.7
F9 B5 B1051.3

## Task 9

List the failed landing\_outcomes in drone ship, their booster versions, and launch site names for in year 2015

The screenshot shows the IBM Db2 on Cloud interface. The SQL editor contains the following query:

```
--TASK9--  
--List the records which will display the month names, failure landing_outcomes in drone ship ,booster versions, launch_site for the months  
select MONTHNAME(DATE) as Month, landing_outcome, booster_version, launch_site  
from SPACEXTBL where DATE like '2015%' AND landing_outcome like 'Failure (drone ship)'
```

The query has been executed, and the results are displayed in a table with 4 columns: MONTH, LANDING\_OUTCOME, BOOSTER\_VERSION, and LAUNCH\_SITE. There are 2 rows of data.

MONTH	LANDING_OUTCOME	BOOSTER_VERSION	LAUNCH_SITE
October	Failure (drone ship)	F9 v1.1 B1012	CCAFS LC-40
April	Failure (drone ship)	F9 v1.1 B1015	CCAFS LC-40

## Task 10

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

The screenshot shows the IBM Db2 on Cloud interface. The SQL editor contains the following query:

```
--TASK10--  
--Rank the count of successful landing_outcomes between the date 2010-06-04 and 2017-03-20 in descending order.--  
select landing_outcome, count(*) as count from SPACEXTBL  
where Date >= '2010-06-04' AND Date <= '2017-03-20'  
GROUP by landing_outcome ORDER BY count Desc
```

The query has been executed, and the results are displayed in a table with 2 columns: LANDING\_OUTCOME and COUNT. There are 8 rows of data.

LANDING_OUTCOME	COUNT
No attempt	10
Failure (drone ship)	5
Success (drone ship)	5
Success (ground pad)	5
Controlled (ocean)	3
Uncontrolled (ocean)	2
Failure (parachute)	1