

For this assignment, write queries using SQL to demonstrate the core aspects of writing SQL to produce data for reporting and analyzing information. There may be multiple ways to produce the same results, but ensure you are returning the requested fields.

Format of Data Structure: The units are 10th of a degree Celcius. The columns are yr and dy for year and day of month. The next twelve columns are for January through to December.

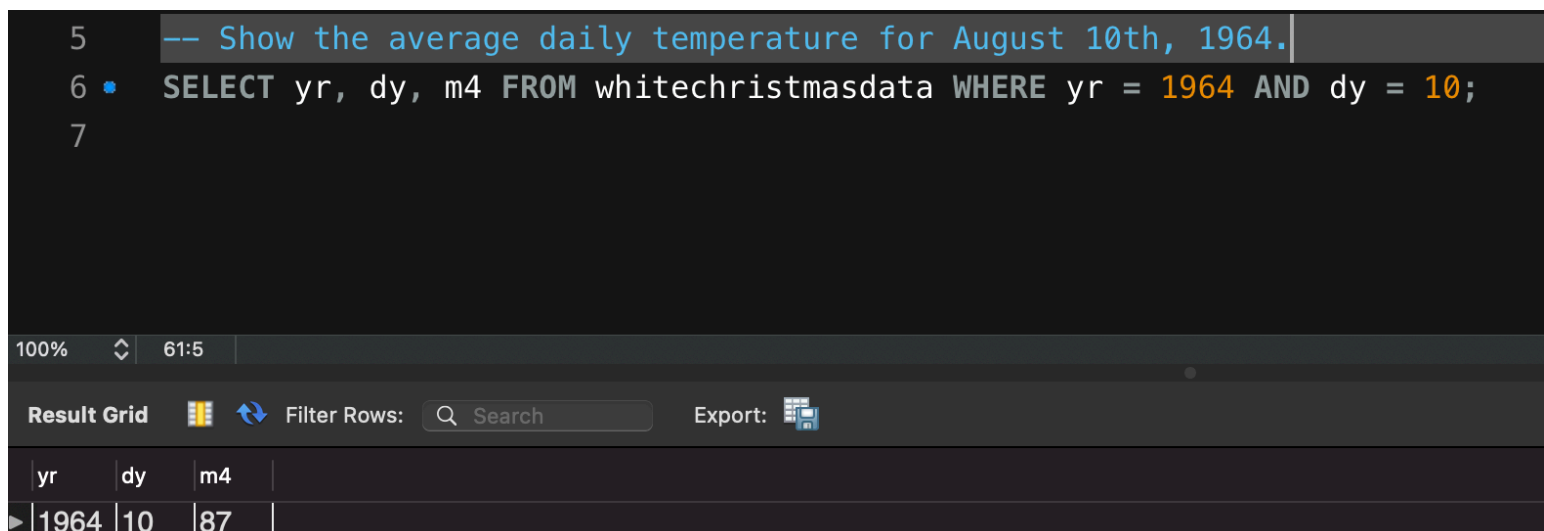
Using the White Christmas database, complete the queries below for the scenarios listed.

Scenario: Diaplay Days, Months, and Years

Query-1: Show the average daily temperature for August 10th, 1964.

- a) **Query:** `SELECT yr, dy, AVG(m4) FROM whitechristmasdata WHERE yr = 1964 AND dy = 10;`
- b) **Columns:** 3
- c) **Expected Row Count:** 1
- d) **Screenshot:**

```
5  -- Show the average daily temperature for August 10th, 1964.
6  • SELECT yr, dy, m4 FROM whitechristmasdata WHERE yr = 1964 AND dy = 10;
7
```



The screenshot shows a SQL query editor with a dark background. The query is: `-- Show the average daily temperature for August 10th, 1964.` followed by `SELECT yr, dy, m4 FROM whitechristmasdata WHERE yr = 1964 AND dy = 10;`. Below the query, there is a 'Result Grid' section. It has a search bar and an 'Export' button. The grid shows the following results:

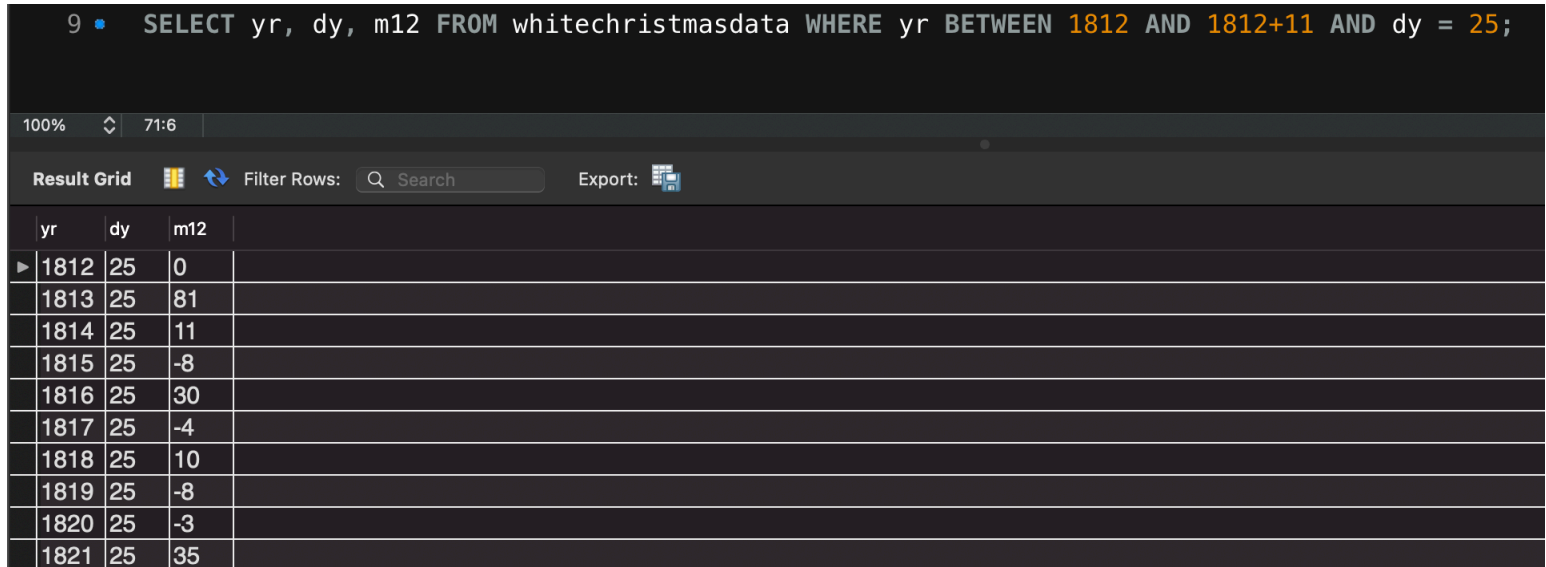
yr	dy	m4
1964	10	87

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Scenario (Preteen Dickens): Charles Dickens is said to be responsible for the tradition of expecting snow at Christmas Daily Telegraph. Show the temperature on Christmas day (25th December) for each year of his childhood. He was born in February 1812 - so he was 1 (more or less) in December 1812.

Query-2: Show the twelve temperatures.

- a) **Query:** `SELECT yr, dy, m12 FROM whitechristmasdata WHERE yr BETWEEN 1812 AND 1812+11 AND dy = 25;`
- b) **Columns:** 3
- c) **Expected Row Count:** 12
- d) **Screenshot:**



The screenshot shows a SQL query editor with a dark theme. The query is: `SELECT yr, dy, m12 FROM whitechristmasdata WHERE yr BETWEEN 1812 AND 1812+11 AND dy = 25;`. Below the query, there is a 'Result Grid' showing 12 rows of data. The columns are 'yr', 'dy', and 'm12'. The data is as follows:

yr	dy	m12
1812	25	0
1813	25	81
1814	25	11
1815	25	-8
1816	25	30
1817	25	-4
1818	25	10
1819	25	-8
1820	25	-3
1821	25	35

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Scenario (Minimum Temperature Before Christmas): We declare a White Christmas if there was a day with an average temperature below zero between 21st and 25th of December.

Query-3: For each age 1-12 show which years were a White Christmas. Show 'White Christmas' or 'No snow' for each age.

- a) **Query:** Getting an error for the case being in the wrong position. The examples I'm finding have the case between the select and from. The query works fine without the case so I know it's just that portion.

```
SELECT yr, dy, AVG(m12)
CASE
    WHEN MIN(m12) < 0 THEN 'White Christmas' #WHEN (m12 >= 1) THEN
'No Snow'
    ELSE 'No Snow'
END AS xmasData
FROM whitechristmasdata WHERE yr BETWEEN 1812 AND 1812+11 AND dy
BETWEEN 21 AND 25 ORDER BY yr;
```

- b) **Columns:** 3
- c) **Expected Row Count:** 12
- d) **Screenshot:**

```
-- For each age 1-12 show which years were a White Christmas.
-- Show 'White Christmas' or 'No snow' for each age.
SELECT yr, dy, AVG(m12)
CASE
  WHEN MIN(m12) < 0 THEN 'White Christmas' #WHEN (m12 >= 1) THEN 'No Snow'
  ELSE 'No Snow'
END AS xmasData
FROM whitechristmasdata WHERE yr BETWEEN 1812 AND 1812+11 AND dy BETWEEN 21 AND 25 ORDER BY yr;
```

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Scenario (White Christmas Count): A person's White Christmas Count (wcc) is the number of White Christmases they were exposed to as a child (between 3 and 12 inclusive assuming they were born at the beginning of the year and were about 1 year old on their first Christmas). Charles Dickens's wcc was 8.

Query-4: List all the years and the wcc for children born in each year of the data set. Only show years where the wcc was at least 7.

- a) **Query:**
- b) **Columns:** 3
- c) **Expected Row Count:**
- d) **Screenshot:**

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Scenario (Climate Change)

Query-5: Display the average temperatures for August by decade.

- a) **Query:** Tried a few different methods, but only my first query is executing.

```
SELECT ROUND(yr-2) decade, ROUND(AVG(m8)) temp FROM
whitechristmasdata GROUP BY yr;
```

```
SELECT ROUND(yr-2) decade, ROUND(AVG(m8)) temp FROM
whitechristmasdata WHERE yr = yr+10;
```

```
SELECT ROUND(yr-2) decade, ROUND(AVG(m8)) temp FROM
whitechristmasdata WHERE yr BETWEEN 1770 AND 1770+10;
```

b) **Columns:** 2

c) **Expected Row Count:**

d) **Screenshot:**

```
24 -- Display the average temperatures for August by decade.
25 SELECT ROUND(yr-2) decade, ROUND(AVG(m8)) temp FROM whitechristmasdata GROUP BY yr;
26 SELECT ROUND(yr-2) decade, ROUND(AVG(m8)) temp FROM whitechristmasdata WHERE yr = yr+10;
27 SELECT ROUND(yr-2) decade, ROUND(AVG(m8)) temp FROM whitechristmasdata WHERE yr BETWEEN 1770 AND 1770+10;
28
29
```

100% 85:25 2 errors found

Result Grid Filter Rows: Search Export:

	decade	temp
▶	1770	161
	1771	172
	1772	161
	1773	158
	1774	152
	1775	159
	1776	168
	1777	176
	1778	176
	1779	173

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