

a. How many rows are in the target table?

```
SELECT COUNT(*) FROM scdtype2.productcosthistoryscd;
SELECT COUNT(*) FROM scdtype2.productpricehistoryscd;
```

The screenshot shows the MySQL Workbench interface with the following details:

- Navigator:** Shows the database schema with the **productcosthistoryscd** and **productpricehistoryscd** tables selected.
- SQL Editor:** Contains the query `SELECT COUNT(*) FROM scdtype2.productpricehistoryscd;`.
- Result Grid:** Displays the result of the query, showing a single row with `COUNT(*)` and the value `390`.
- Output Window:** Shows the execution history with four entries, all returning 390 rows.
- System Tray:** Shows the date and time as 18-03-2023 09:37 PM.

The screenshot shows the MySQL Workbench interface with the following details:

- Navigator:** Shows the database schema with the **productcosthistoryscd** and **productpricehistoryscd** tables selected.
- SQL Editor:** Contains the query `SELECT COUNT(*) FROM scdtype2.productcosthistoryscd;`.
- Result Grid:** Displays the result of the query, showing a single row with `COUNT(*)` and the value `395`.
- Output Window:** Shows the execution history with four entries, all returning 395 rows.
- System Tray:** Shows the date and time as 18-03-2023 09:37 PM.

b. How many unique products are being tracked?

```
select distinct (ProductName) as Distinct_ProductName  
from scdtype2.productpricehistoryscd
```

```
select distinct (ProductName) as Distinct_ProductName  
from scdtype2.productcosthistoryscd
```

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas (sakila, sales, scdtype2), Tables (productcosthistoryscd, productpricehistoryscd), Columns (SCD_SK, ProductID, ProductName).
- Query Editor:** Contains the following SQL code:

```
1 • SELECT COUNT(*) FROM scdtype2.productpricehistoryscd;  
2 • select count(ProductName) from scdtype2.productpricehistoryscd where ProductName is not null;  
3 •  
4 • select distinct (ProductName) as Distinct_ProductName  
5 from scdtype2.productpricehistoryscd  
6
```
- Result Grid:** Shows the results of the query:

| Distinct_ProductName |
|-------------------------|
| Sport-100 Helmet, Red |
| Sport-100 Helmet, Black |
| Mountain Bike Socks, M |
| Mountain Bike Socks, L |
| Sport-100 Helmet, Blue |
- Action Output:** Displays the execution log with 29 entries, all successful, showing the time of execution and the message.
- System Bar:** Shows the date (18-03-2023), time (09:49 PM), and system status (6°C Clear).

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas (sakila, sales, scdtype2), Tables (productcosthistoryscd, productpricehistoryscd), Columns (SCD_SK, ProductID, ProductName).
- Query Editor:** Contains the following SQL code:

```
1 • SELECT COUNT(*) FROM scdtype2.productcosthistoryscd;  
2 •  
3 • select distinct (ProductName) as Distinct_ProductName  
4 from scdtype2.productcosthistoryscd  
5
```
- Result Grid:** Shows the results of the query:

| Distinct_ProductName |
|-------------------------|
| Sport-100 Helmet, Red |
| Sport-100 Helmet, Black |
| Mountain Bike Socks, M |
| Mountain Bike Socks, L |
| Sport-100 Helmet, Blue |
- Action Output:** Displays the execution log with 33 entries, all successful, showing the time of execution and the message.
- System Bar:** Shows the date (18-03-2023), time (09:53 PM), and system status (6°C Clear).

c. How many products have more than 1 price?

```
select ProductID from scdtype2.productpricehistoryscd  
group by ProductID  
having count(distinct(ListPrice))>1;
```

```
select ProductID from scdtype2.productcosthistoryscd  
group by ProductID  
having count(distinct(StandardCost))>1;
```

The screenshot shows the MySQL Workbench interface with two tabs open: 'productcosthistoryscd' and 'productpricehistoryscd'. The 'productcosthistoryscd' tab is active, displaying a result grid with ProductID values 707, 708, 711, 712, 713, 714, and 715. The 'productpricehistoryscd' tab shows the SQL query and its execution message: '1 22:01:16 select ProductID from scdtype2.productpricehistoryscd group by ProductID... 77 row(s) returned'.

```
3 • select distinct (ProductName) as Distinct_ProductName  
4   from scdtype2.productcosthistoryscd;  
5  
6 • select ProductID from scdtype2.productcosthistoryscd  
7   group by ProductID  
8   having count(distinct(StandardCost))>1;  
9
```

| ProductID |
|-----------|
| 707 |
| 708 |
| 711 |
| 712 |
| 713 |
| 714 |
| 715 |

Action Output

```
1 22:01:16 select ProductID from scdtype2.productpricehistoryscd group by ProductID... 77 row(s) returned
```

The screenshot shows the MySQL Workbench interface with two tabs open: 'productcosthistoryscd' and 'productpricehistoryscd'. The 'productcosthistoryscd' tab is active, displaying a result grid with ProductID values 707, 708, 711, 712, 713, 714, and 715. The 'productpricehistoryscd' tab shows the SQL query and its execution message: '1 22:01:16 select ProductID from scdtype2.productpricehistoryscd group by ProductID... 77 row(s) returned' and '2 22:01:50 select ProductID from scdtype2.productpricehistoryscd group by ProductID... 77 row(s) returned'.

```
3  
4 • select distinct (ProductName) as Distinct_ProductName  
5   from scdtype2.productpricehistoryscd;  
6  
7 • select * from ProductPriceHistorySCD where productId = 725;  
8  
9 • select ProductID from scdtype2.productpricehistoryscd
```

| ProductID |
|-----------|
| 707 |
| 708 |
| 711 |
| 712 |
| 713 |
| 714 |
| 715 |

Action Output

```
1 22:01:16 select ProductID from scdtype2.productpricehistoryscd group by ProductID... 77 row(s) returned  
2 22:01:50 select ProductID from scdtype2.productpricehistoryscd group by ProductID... 77 row(s) returned
```

d. What is the list of current product prices? (list product, price, start date of that price and what price version)

```
select ProductName,ListPrice,scd_start,scd_version from scdtype2.productpricehistoryscd
where scd_active=1;
```

```
select ProductName,StandardCost,scd_start,scd_version from scdtype2.productcosthistoryscd
where scd_active=1;
```

MySQL Workbench - Local instance MySQL80

productcosthistoryscd | productpricehistoryscd

```
11 • select ProductName,ListPrice,scd_start,scd_version from scdtype2.productpricehistoryscd
12 where scd_active=1;
13
14
15
16
```

Result Grid | Filter Rows: Export | Wrap Cell Content:

| ProductName | ListPrice | scd_start | scd_version |
|-----------------------------|-----------|---------------------|-------------|
| Sport-100 Helmet, Red | 34.9900 | 2021-05-30 00:00:00 | 2 |
| Sport-100 Helmet, Black | 34.9900 | 2021-05-30 00:00:00 | 2 |
| Mountain Bike Socks, M | 9.5000 | 2019-05-31 00:00:00 | 1 |
| Mountain Bike Socks, L | 9.5000 | 2019-05-31 00:00:00 | 1 |
| Sport-100 Helmet, Blue | 34.9900 | 2021-05-30 00:00:00 | 2 |
| AIVC Logo Cap | 8.9900 | 2021-05-30 00:00:00 | 2 |
| Long-Sleeve Logo Jersey, S | 49.9900 | 2021-05-30 00:00:00 | 2 |
| Long-Sleeve Logo Jersey, M | 49.9900 | 2021-05-30 00:00:00 | 2 |
| Long-Sleeve Logo Jersey, L | 49.9900 | 2021-05-30 00:00:00 | 2 |
| Long-Sleeve Logo Jersey, XL | 49.9900 | 2021-05-30 00:00:00 | 2 |

Action Output

| # | Time | Action | Message | Duration / Fetch |
|---|----------|---|---------------------|-----------------------|
| 1 | 22:05:52 | select ProductName,ListPrice,scd_start,scd_version from scdtype2.productpricehistoryscd where scd_active=1; | 293 row(s) returned | 0.000 sec / 0.000 sec |
| 2 | 22:07:09 | select ProductName,StandardCost,scd_start,scd_version from scdtype2.productcosthistoryscd where scd_active=1; | 293 row(s) returned | 0.000 sec / 0.000 sec |
| 3 | 22:08:34 | select ProductName,StandardCost,scd_start,scd_version from scdtype2.productcosthistoryscd where scd_active=1; | 293 row(s) returned | 0.016 sec / 0.000 sec |

MySQL Workbench - Local instance MySQL80

productcosthistoryscd | productpricehistoryscd

```
10 • select ProductName,StandardCost,scd_start,scd_version from scdtype2.productcosthistoryscd
11 where scd_active=1;
12
13
14
15
16
17
18
```

Result Grid | Filter Rows: Export | Wrap Cell Content:

| ProductName | StandardCost | scd_start | scd_version |
|-------------------------|--------------|-------------------------|-------------|
| Sport-100 Helmet, Red | 13.0863 | 2021-05-30 00:00:00.000 | 3 |
| Sport-100 Helmet, Black | 13.0863 | 2021-05-30 00:00:00.000 | 3 |
| Mountain Bike Socks, M | 3.3963 | 2019-05-31 00:00:00.000 | 1 |
| Mountain Bike Socks, L | 3.3963 | 2019-05-31 00:00:00.000 | 1 |
| Sport-100 Helmet, Blue | 13.0863 | 2021-05-30 00:00:00.000 | 3 |
| AIVC Logo Cap | 6.9223 | 2021-05-30 00:00:00.000 | 3 |

Action Output

| # | Time | Action | Message | Duration / Fetch |
|---|----------|---|---------------------|-----------------------|
| 1 | 22:09:36 | select ProductName,StandardCost,scd_start,scd_version from scdtype2.productcosthistoryscd where scd_active=1; | 293 row(s) returned | 0.000 sec / 0.000 sec |

e. What is the product(s) with the maximum price? (list product, price, start date of that price and what price version)

```
SELECT ProductName, ListPrice, scd_start, scd_version
from scdtype2.productpricehistoryscd
where ListPrice = (select max(ListPrice) from scdtype2.productpricehistoryscd);
```

```
SELECT ProductName, StandardCost, scd_start, scd_version
from scdtype2.productcosthistoryscd
where StandardCost = (select max(StandardCost) from scdtype2.productcosthistoryscd);
```

The screenshot shows the MySQL Workbench interface with the following details:

- Navigator:** Shows the schema `scdtype2` containing tables `productcosthistoryscd` and `productpricehistoryscd`.
- SQL Editor:** Contains the following SQL code:

```
12
13
14 • SELECT ProductName, ListPrice, scd_start, scd_version
15   from scdtype2.productpricehistoryscd
16   where ListPrice = (select max(ListPrice) from scdtype2.productpricehistoryscd);
17
18
19
20
```
- Result Grid:** Displays the results of the query, showing five rows of data:

| ProductName | ListPrice | scd_start | scd_version |
|------------------|-----------|-------------------------|-------------|
| Road-150 Red, 62 | 3578.2700 | 2019-05-31 00:00:00.000 | 1 |
| Road-150 Red, 44 | 3578.2700 | 2019-05-31 00:00:00.000 | 1 |
| Road-150 Red, 48 | 3578.2700 | 2019-05-31 00:00:00.000 | 1 |
| Road-150 Red, 52 | 3578.2700 | 2019-05-31 00:00:00.000 | 1 |
| Road-150 Red, 56 | 3578.2700 | 2019-05-31 00:00:00.000 | 1 |
- Output:** Shows the execution log with two entries:

```
1 22:11:49 SELECT ProductName, ListPrice, scd_start, scd_version from scdtype2.pro... 5 row(s) returned
2 22:11:49 SELECT ProductName, ListPrice, scd_start, scd_version from scdtype2.pro... 5 row(s) returned
```

The screenshot shows the MySQL Workbench interface with the following details:

- Navigator:** Shows the schema `scdtype2` containing tables `productcosthistoryscd` and `productpricehistoryscd`.
- SQL Editor:** Contains the following SQL code:

```
12
13
14 • SELECT ProductName, StandardCost, scd_start, scd_version
15   from scdtype2.productcosthistoryscd
16   where StandardCost = (select max(StandardCost) from scdtype2.productcosthistoryscd);
17
18
19
20
```
- Result Grid:** Displays the results of the query, showing five rows of data:

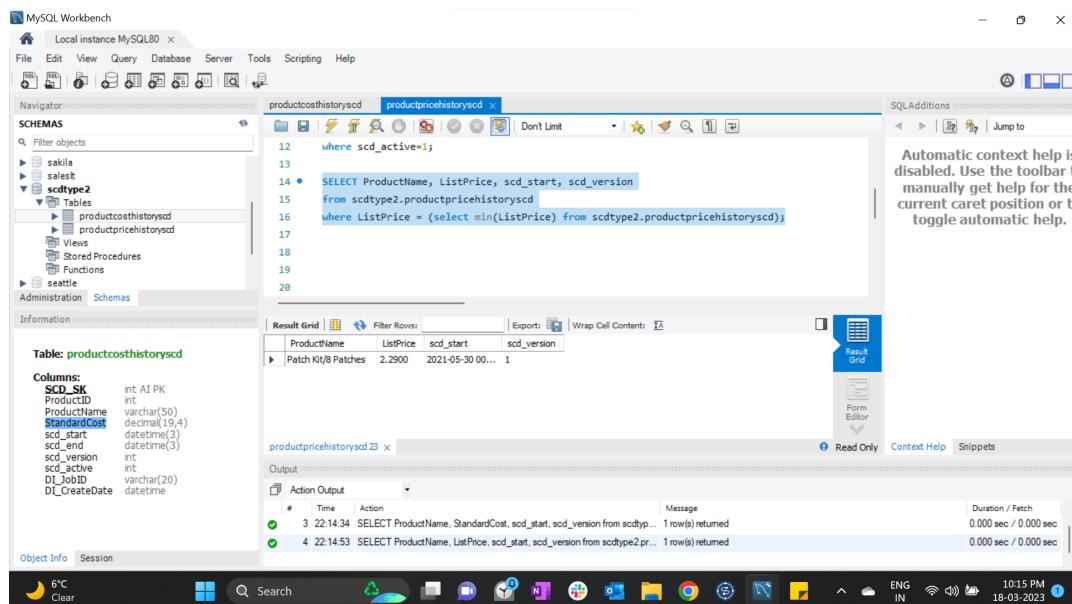
| ProductName | StandardCost | scd_start | scd_version |
|------------------|--------------|-------------------------|-------------|
| Road-150 Red, 62 | 2171.2942 | 2019-05-31 00:00:00.000 | 1 |
| Road-150 Red, 44 | 2171.2942 | 2019-05-31 00:00:00.000 | 1 |
| Road-150 Red, 48 | 2171.2942 | 2019-05-31 00:00:00.000 | 1 |
| Road-150 Red, 52 | 2171.2942 | 2019-05-31 00:00:00.000 | 1 |
| Road-150 Red, 56 | 2171.2942 | 2019-05-31 00:00:00.000 | 1 |
- Output:** Shows the execution log with two entries:

```
1 22:11:49 SELECT ProductName, StandardCost, scd_start, scd_version from scdtype2.pro... 5 row(s) returned
2 22:12:54 SELECT ProductName, StandardCost, scd_start, scd_version from scdtype2.pro... 5 row(s) returned
```

f. What is the product(s) with the minimum price? (list product, price, start date of that price and what price version)

```
SELECT ProductName, StandardCost, scd_start, scd_version
from scdtype2.productcosthistoryscd
where StandardCost = (select min(StandardCost) from scdtype2.productcosthistoryscd);
```

```
SELECT ProductName, ListPrice, scd_start, scd_version
from scdtype2.productpricehistoryscd
where ListPrice = (select min(ListPrice) from scdtype2.productpricehistoryscd);
```



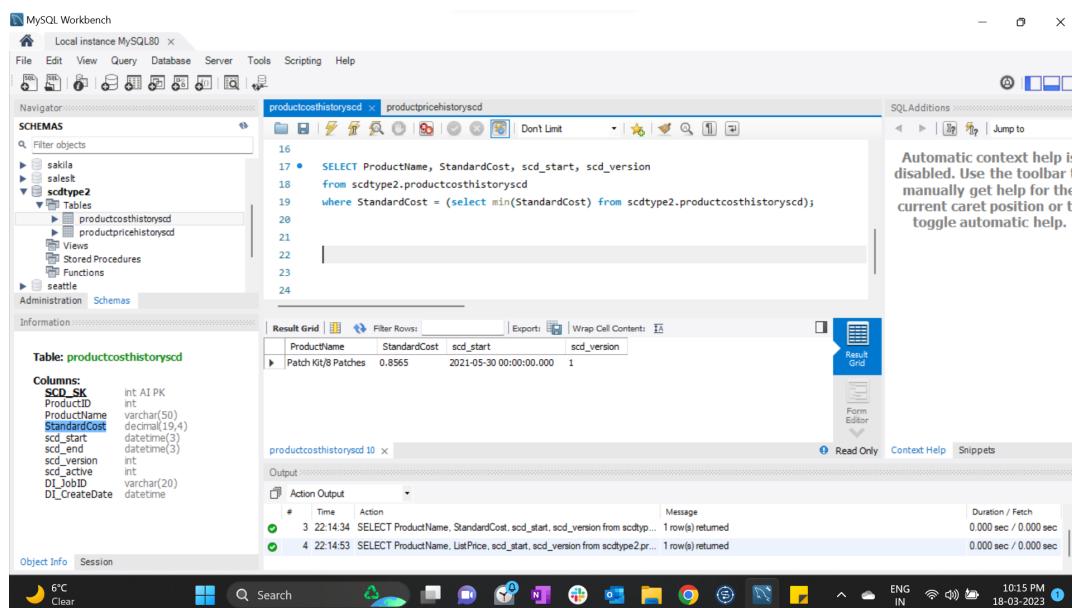
This screenshot shows the MySQL Workbench interface with the first query executed. The SQL editor contains the following code:

```
12 where scd_active=1
13
14 • SELECT ProductName, ListPrice, scd_start, scd_version
15   from scdtype2.productpricehistoryscd
16   where ListPrice = (select min(ListPrice) from scdtype2.productpricehistoryscd)
17
18
19
20
```

The results grid shows one row of data:

| ProductName | ListPrice | scd_start | scd_version |
|---------------------|-----------|---------------------|-------------|
| Patch Kit/8 Patches | 2.2900 | 2021-05-30 00:00:00 | 1 |

The status bar at the bottom right indicates the session was run at 10:15 PM on 18-03-2023.



This screenshot shows the MySQL Workbench interface with the second query executed. The SQL editor contains the following code:

```
16
17 • SELECT ProductName, StandardCost, scd_start, scd_version
18   from scdtype2.productcosthistoryscd
19   where StandardCost = (select min(StandardCost) from scdtype2.productcosthistoryscd)
20
21
22
23
24
```

The results grid shows one row of data:

| ProductName | StandardCost | scd_start | scd_version |
|---------------------|--------------|-------------------------|-------------|
| Patch Kit/8 Patches | 0.8965 | 2021-05-30 00:00:00.000 | 1 |

The status bar at the bottom right indicates the session was run at 10:15 PM on 18-03-2023.

g. What is the price history for “HL Road Frame - Red, 62”?

```
select * from scdtype2.productpricehistoryscd  
where ProductName="HL Road Frame - Red, 62"
```

```
select * from scdtype2.productcosthistoryscd  
where ProductName="HL Road Frame - Red, 62"
```

The screenshot shows the MySQL Workbench interface with the following details:

- Navigator:** Shows the schema `scdtype2` containing tables `productcohistoryscd` and `productpricehistoryscd`.
- SQL Editor:** Contains the SQL query:

```
16 where ListPrice = (select min(ListPrice) from scdtype2.productpricehistoryscd);  
17  
18 • select * from scdtype2.productpricehistoryscd  
19 where ProductName="HL Road Frame - Red, 62"  
20  
21  
22  
23  
24
```
- Result Grid:** Displays the results of the query:

| SCD_SK | ProductID | ProductName | ListPrice | scd_start | scd_end | scd_version | so |
|--------|-----------|-------------------------|-----------|-------------------------|-------------------------|-------------|----|
| 19 | 717 | HL Road Frame - Red, 62 | 1263.4598 | 2019-05-31 00:00:00.000 | 2020-05-30 00:00:00.000 | 1 | 0 |
| 20 | 717 | HL Road Frame - Red, 62 | 1301.3636 | 2020-05-30 00:00:00.000 | 2021-05-30 00:00:00.000 | 2 | 0 |
| 21 | 717 | HL Road Frame - Red, 62 | 1431.5000 | 2021-05-30 00:00:00.000 | 2021-12-31 00:00:00.000 | 3 | 0 |
| 22 | 717 | HL Road Frame - Red, 62 | 1560.3500 | 2021-12-31 00:00:00.000 | 9999-01-01 12:00:00.000 | 4 | 1 |
- Output:** Shows the execution log:

| # | Time | Action | Message | Duration / Fetch |
|---|----------|---|-------------------|-----------------------|
| 4 | 22:14:53 | SELECT ProductName, ListPrice, scd_start, scd_version from scdtype2.pr... | 1 row(s) returned | 0.000 sec / 0.000 sec |
| 5 | 22:17:18 | select * from scdtype2.productpricehistoryscd where ProductName="HL R... | 4 row(s) returned | 0.000 sec / 0.000 sec |

The screenshot shows the MySQL Workbench interface with the following details:

- Navigator:** Shows the schema `scdtype2` containing tables `productcohistoryscd` and `productpricehistoryscd`.
- SQL Editor:** Contains the SQL query:

```
21 • select * from scdtype2.productcosthistoryscd  
22 where ProductName="HL Road Frame - Red, 62"  
23  
24  
25  
26  
27  
28  
29
```
- Result Grid:** Displays the results of the query:

| SCD_SK | ProductID | ProductName | StandardCost | scd_start | scd_end | scd_version | so |
|--------|-----------|-------------------------|--------------|-------------------------|-------------------------|-------------|----|
| 27 | 717 | HL Road Frame - Red, 62 | 747.9682 | 2019-05-31 00:00:00.000 | 2020-05-30 00:00:00.000 | 1 | 0 |
| 28 | 717 | HL Road Frame - Red, 62 | 722.2568 | 2020-05-30 00:00:00.000 | 2021-05-30 00:00:00.000 | 2 | 0 |
| 29 | 717 | HL Road Frame - Red, 62 | 868.6342 | 2021-05-30 00:00:00.000 | 9999-01-01 12:00:00.000 | 3 | 0 |
- Output:** Shows the execution log:

| # | Time | Action | Message | Duration / Fetch |
|---|----------|---|-------------------|-----------------------|
| 5 | 22:17:18 | select * from scdtype2.productpricehistoryscd where ProductName="HL ... | 4 row(s) returned | 0.000 sec / 0.000 sec |
| 6 | 22:18:27 | select * from scdtype2.productcosthistoryscd where ProductName="HL R... | 3 row(s) returned | 0.000 sec / 0.000 sec |

h. How many products had a price change in 2020?

```
SELECT COUNT(*) AS Product_Count FROM scdtype2.productpricehistoryscd  
WHERE scd_start BETWEEN '2020-01-01 00:00:00.000' AND '2020-12-31 00:00:00.000';
```

```
SELECT COUNT(*) AS Product_Count FROM scdtype2.productcosthistoryscd  
WHERE scd_start BETWEEN '2020-01-01 00:00:00.000' AND '2020-12-31 00:00:00.000';
```

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas (sakila, salesst, scdtype2, seattle), Administration, Schemas.
- Query Editor:** productcosthistoryscd tab selected, SQL pane:

```
23  
24 • SELECT COUNT(*) AS Product_Count FROM scdtype2.productcosthistoryscd  
25 WHERE scd_start BETWEEN '2020-01-01 00:00:00.000' AND '2020-12-31 00:00:00.000';  
26  
27  
28  
29  
30  
31
```
- Result Grid:** Shows the result of the query: Product_Count = 128.
- Output:** Action Output pane shows two log entries:

 - Line 8: 22:20:49 SELECT COUNT() AS Product_Count FROM scdtype2.productcosthisto... 1 row(s) returned Duration / Fetch: 0.015 sec / 0.000 sec
 - Line 9: 22:21:17 SELECT COUNT() AS Product_Count FROM scdtype2.productcosthisto... 1 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec

The screenshot shows the MySQL Workbench interface with the following details:

- File Bar:** File, Edit, View, Query, Database, Server, Tools, Scripting, Help.
- Navigator:** Schemas (sakila, salesst, scdtype2, seattle), Administration, Schemas.
- Query Editor:** productpricehistoryscd tab selected, SQL pane:

```
20 • SELECT COUNT(*) AS Product_Count FROM scdtype2.productpricehistoryscd  
21 WHERE scd_start BETWEEN '2020-01-01 00:00:00.000' AND '2020-12-31 00:00:00.000';  
22  
23  
24  
25  
26  
27  
28
```
- Result Grid:** Shows the result of the query: Product_Count = 120.
- Output:** Action Output pane shows two log entries:

 - Line 9: 22:21:17 SELECT COUNT() AS Product_Count FROM scdtype2.productpricehisto... 1 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec
 - Line 10: 22:22:04 SELECT COUNT() AS Product_Count FROM scdtype2.productpricehisto... 1 row(s) returned Duration / Fetch: 0.000 sec / 0.000 sec