

```
[2]: pip install pyodbc

Requirement already satisfied: pyodbc in c:\users\amand\anaconda3\lib\site-packages (5.0.1)
Note: you may need to restart the kernel to use updated packages.
```

```
[3]: import pyodbc
dados_conexao = (
    "Driver={SQL Server};"
    "Server=LAPTOP-G5NDVG86;"
    "Database=ContosoRetailDW;"
)
conexao = pyodbc.connect(dados_conexao)
print ("Conexão Bem Sucedida")

Conexão Bem Sucedida
```

```
[6]: #Criar um objeto cursor

cursor = conexao.cursor()

#Comando SQL a executar

cursor.execute('SELECT*FROM dimProduct')

#Buscar todos os resultados

for row in cursor: print(row)

conexao.close()
```

```
(1, '0101001', 'Contoso 512MB MP3 Player E51 Silver', '512MB USB driver plays MP3 and WMA', 1, 'Contoso, Ltd', 'Contoso', '1', 'Economy', '1', 'Product0101001', '7', 'Silver', '2.2 x 1.8 x 4 ', ' ', ' ', 4.8, 'ounces', '1', 'inches', '1', 'High', Decimal('6.6200'), Decimal('12.9900'), datetime.datetime(2008, 5, 3, 0, 0), None, 'On', None, None, 1, datetime.datetime(2008, 5, 25, 8, 1, 12), datetime.datetime(2008, 5, 25, 8, 1, 12))
```

```
[7]: pip install matplotlib

Requirement already satisfied: matplotlib in c:\users\amand\anaconda3\lib\site-packages (3.8.0)Note: you may need to restart the kernel to use updated packages.

Requirement already satisfied: contourpy>=1.0.1 in c:\users\amand\anaconda3\lib\site-packages (from matplotlib) (1.2.0)
Requirement already satisfied: cycler>=0.10 in c:\users\amand\anaconda3\lib\site-packages (from matplotlib) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in c:\users\amand\anaconda3\lib\site-packages (from matplotlib) (4.25.0)
Requirement already satisfied: kiwisolver>=1.0.1 in c:\users\amand\anaconda3\lib\site-packages (from matplotlib) (1.4.4)
Requirement already satisfied: numpy<2,>=1.21 in c:\users\amand\anaconda3\lib\site-packages (from matplotlib) (1.26.4)
Requirement already satisfied: packaging>=20.0 in c:\users\amand\anaconda3\lib\site-packages (from matplotlib) (23.1)
Requirement already satisfied: pillow>=6.2.0 in c:\users\amand\anaconda3\lib\site-packages (from matplotlib) (10.2.0)
Requirement already satisfied: pyparsing>=2.3.1 in c:\users\amand\anaconda3\lib\site-packages (from matplotlib) (3.0.9)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\amand\anaconda3\lib\site-packages (from matplotlib) (2.8.2)
Requirement already satisfied: six>=1.5 in c:\users\amand\anaconda3\lib\site-packages (from python-dateutil>=2.7->matplotlib) (1.16.0)
```

```
[8]: pip install pandas

Requirement already satisfied: pandas in c:\users\amand\anaconda3\lib\site-packages (2.1.4)
Requirement already satisfied: numpy<2,>=1.23.2 in c:\users\amand\anaconda3\lib\site-packages (from pandas) (1.26.4)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\amand\anaconda3\lib\site-packages (from pandas) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in c:\users\amand\anaconda3\lib\site-packages (from pandas) (2023.3.post1)
Requirement already satisfied: tzdata>=2022.1 in c:\users\amand\anaconda3\lib\site-packages (from pandas) (2023.3)
Requirement already satisfied: six>=1.5 in c:\users\amand\anaconda3\lib\site-packages (from python-dateutil>=2.8.2->pandas) (1.16.0)
Note: you may need to restart the kernel to use updated packages.
```

```
[9]: import pyodbc
import pandas as pd
import matplotlib
dados_conexao = (
    "Driver={SQL Server};"
    "Server=LAPTOP-G5NDVG86;"
    "Database=ContosoRetailDW;"
)
conexao = pyodbc.connect(dados_conexao)
print ("Conexão Bem Sucedida")

Conexão Bem Sucedida
```

```
[12]: #fazendo a leitura da tabela do SQL Server:

comando_sql = "SELECT ColorName, UnitPrice FROM DimProduct"

dados = pd.read_sql(comando_sql, conexao)

display(dados)
```

```
C:\Users\amand\AppData\Local\Temp\ipykernel_73308\2529733027.py:5: UserWarning: pandas only supports SQLAlchemy connectable (engine/connection) or database string URI or sqlite3 DBAPI2 connection. Other DBAPI2 objects are not tested. Please consider using SQLAlchemy.
dados = pd.read_sql(comando_sql, conexao)
```

	ColorName	UnitPrice
0	Silver	12.99
1	Blue	12.99
2	White	14.52
3	Silver	21.57

```
[14]: #criando um agrupamento do total de produtos por cores
```

```
dados.groupby('ColorName').count()
```

```
[14]:
```

ColorName	UnitPrice
Azure	14
Black	602
Blue	197
Brown	77
Gold	50
Green	74
Grey	283
Orange	55
Pink	84
Purple	6
Red	99
Silver	417
Silver Grey	14
Transparent	1
White	505

```
[15]: #armazenamento o agrupamento em uma variável:
```

```
total_produtos_por_cor = dados.groupby('ColorName').count()
```

```
display(total_produtos_por_cor)
```

```
[15]:
```

ColorName	UnitPrice
Azure	14
Black	602
Blue	197
Brown	77
Gold	50
Green	74
Grey	283
Orange	55
Pink	84
Purple	6
Red	99
Silver	417
Silver Grey	14
Transparent	1

```
[16]: #plotando um gráfico do agrupamento:
```

```
total_produtos_por_cor.plot(kind='bar')
```

```
[16]: <Axes: xlabel='ColorName'>
```

