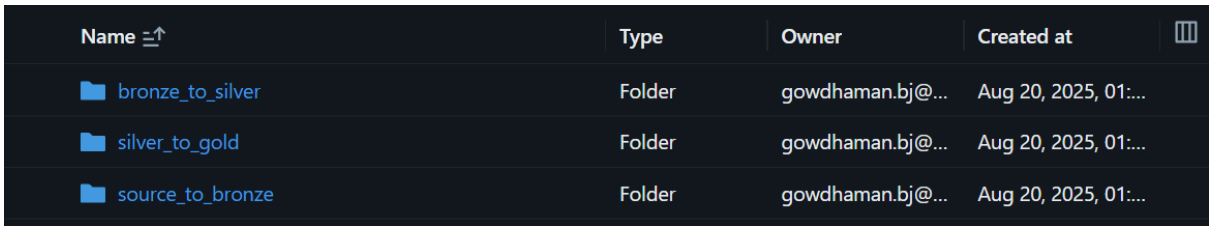
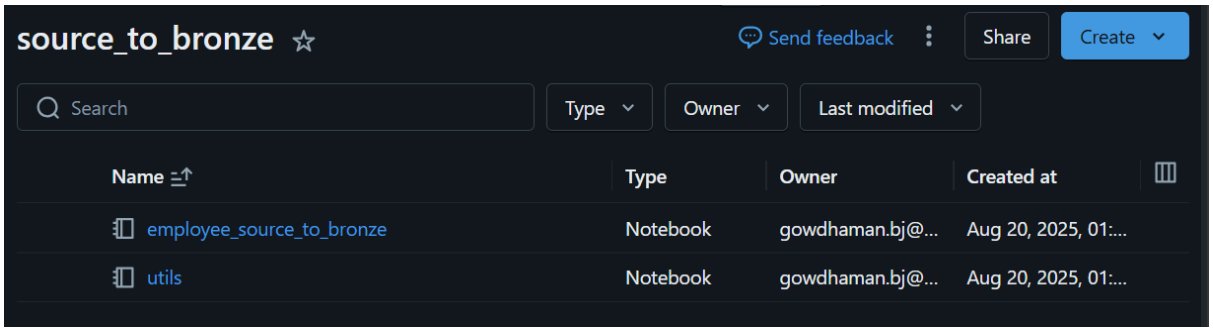
Databricks Assignment

Question 1:

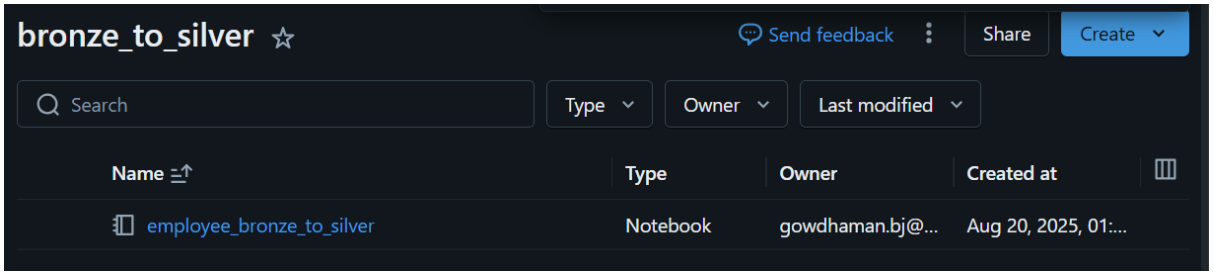
1. Create 3 folders as source_to_bronze, bronze_to_silver, silver_to_gold.



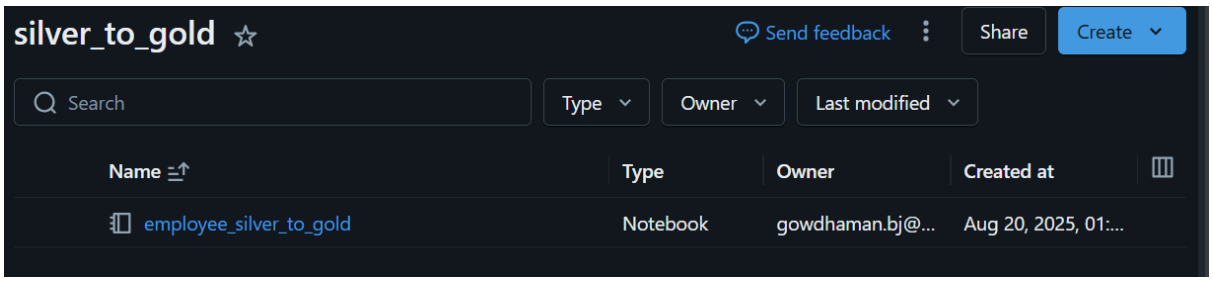
2. Create 4 notebooks in this respective order.
   2 Notebooks named in source_to_bronze as utils (add all common functions in this notebook) and employee_source_to_bronze (driver notebook)



   1 Notebook in bronze to silver as employee_bronze_to_silver

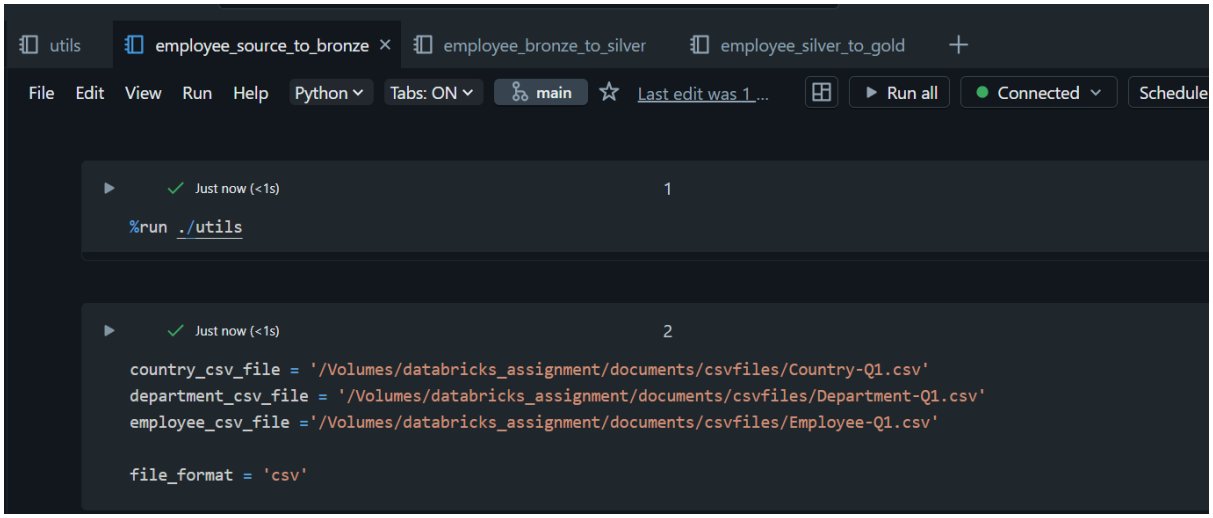


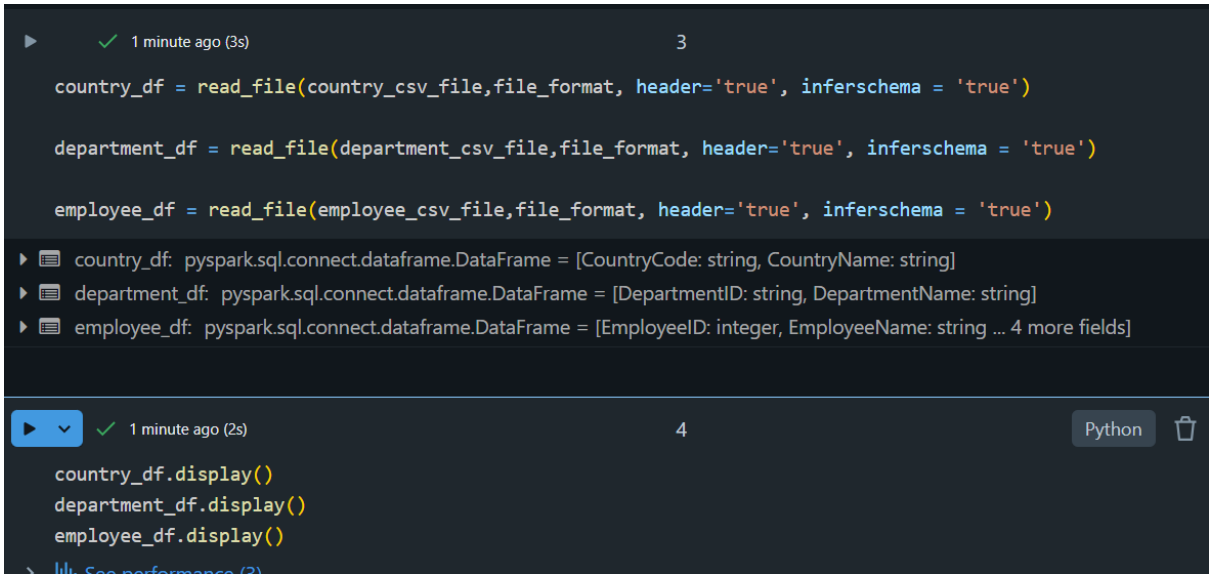
   1 Notebook in silver to gold as employee_silver_to_gold



3. Read the 3 datasets as Dataframe in **employee_source_to_bronze**, call utils notebook in this notebook, and write to a location in DBFS, as

/source_to_bronze/file_name.csv (employee, department_df, country_df) as CSV format.



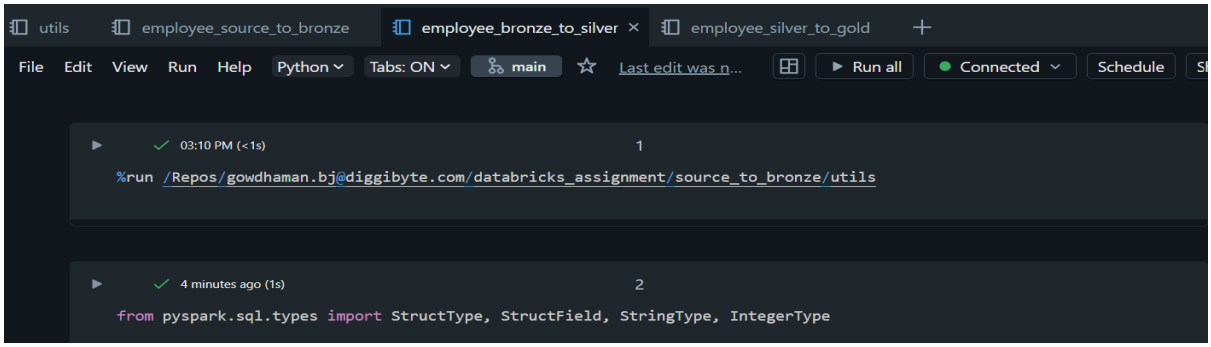


	DepartmentID	DepartmentName
1	D101	Sales
2	D102	Marketing
3	D103	Finance
4	D104	Support
5	D105	HR

	CountryCode	CountryName
1	CN	China
2	IN	India
3	SA	South Africa
4	JA	Japan
5	MY	Malaysia
6	MA	Morocco

	EmployeeID	EmployeeName	Department	Country	Salary	Age
1	1	James	D101	IN	9000	25
2	2	Michel	D102	SA	8000	26
3	3	James son	D101	IN	10000	35
4	4	Robert	D103	MY	11000	34
5	5	Scott	D104	MA	6000	36
6	6	Gen	D105	JA	21345	24
7	7	John	D102	MY	87654	40
8	8	Maria	D105	SA	38144	38
9	9	Soffy	D103	IN	23456	29
10	10	Amy	D103	CN	21345	24

4. In **employee_bronze_to_silver**, call utils notebook in this notebook.
   Read the file located in DBFS location source_to_bronze with as data frame different read methods using custom schema.
   (dbfs access is not their)



✓ 3 minutes ago (<1s) 3

```
dept_schema = StringType([
    StructField("DepartmentID", StringType(), True),
    StructField("DepartmentName", StringType(), True)
])

employee_schema = StringType([
    StructField("EmployeeID", IntegerType(), True),
    StructField("EmployeeName", StringType(), True),
    StructField("Department", StringType(), True),
    StructField("Country", StringType(), True),
    StructField("Salary", IntegerType(), True),
    StructField("Age", IntegerType(), True)
])

country_schema = StringType([
    StructField("CountryCode", StringType(), True),
    StructField("CountryName", StringType(), True)
])
```

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```
country_csv_file = '/Volumes/databricks_assignment/documents/csvfiles/Country-Q1.csv'
department_csv_file = '/Volumes/databricks_assignment/documents/csvfiles/Department-Q1.csv'
employee_csv_file ='/Volumes/databricks_assignment/documents/csvfiles/Employee-Q1.csv'

file_format = 'csv'
```

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```
read_dept = read_file(department_csv_file,file_format,schema = dept_schema,header=True)
read_country = read_file(country_csv_file,file_format,schema=country_schema,header=True)
read_employee = read_file(employee_csv_file,file_format,schema=employee_schema,header=True)
display(read_dept)
display(read_country)
display(read_employee)
```

5. convert the Camel case of the columns to the snake case using UDF.

convert the Camel case of the columns to the snake case using UDF.

03:22 PM (<1s) 7

```
import re
```

5 minutes ago (<1s) 8

```
def camel_to_snake_case(camel_str):
    s1 = re.sub('(.)([A-Z][a-z]+)', r'\1_\2', camel_str)
    return re.sub('([a-z0-9])([A-Z])', r'\1_\2', s1).lower()

def rename_columns_to_snake_case(df):
    new_cols = [camel_to_snake_case(col) for col in df.columns]
    return df.toDF(*new_cols)
```

03:38 PM (4s) 9

```
read_dept = rename_columns_to_snake_case(read_dept)
read_country = rename_columns_to_snake_case(read_country)
read_employee = rename_columns_to_snake_case(read_employee)

# Show results
display(read_dept)
display(read_country)
display(read_employee)
```

See performance (3)

read_dept: pyspark.sql.connect.dataframe.DataFrame = [department_id: string

read_country: pyspark.sql.connect.dataframe.DataFrame = [country_code: strin

read_employee: pyspark.sql.connect.dataframe.DataFrame = [employee_id: str

Table +

	department_id	department_name
1	D101	Sales
2	D102	Marketing

6. Add the **load_date** column with the current date.
   The primary key is EmployeeID, the Database name is Employee_info, Table name is dim_employee.
   write the DF as a delta table to the location /silver/db_name/table_name.