Mini-Lesson 2: Reproducible Example (Reprex)

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Intro

Comunicating clearly is an extremely valuable skill in all aspects of life.

Coding is no exception. **Use reprex**.

What is Reproducible Example (Reprex)?

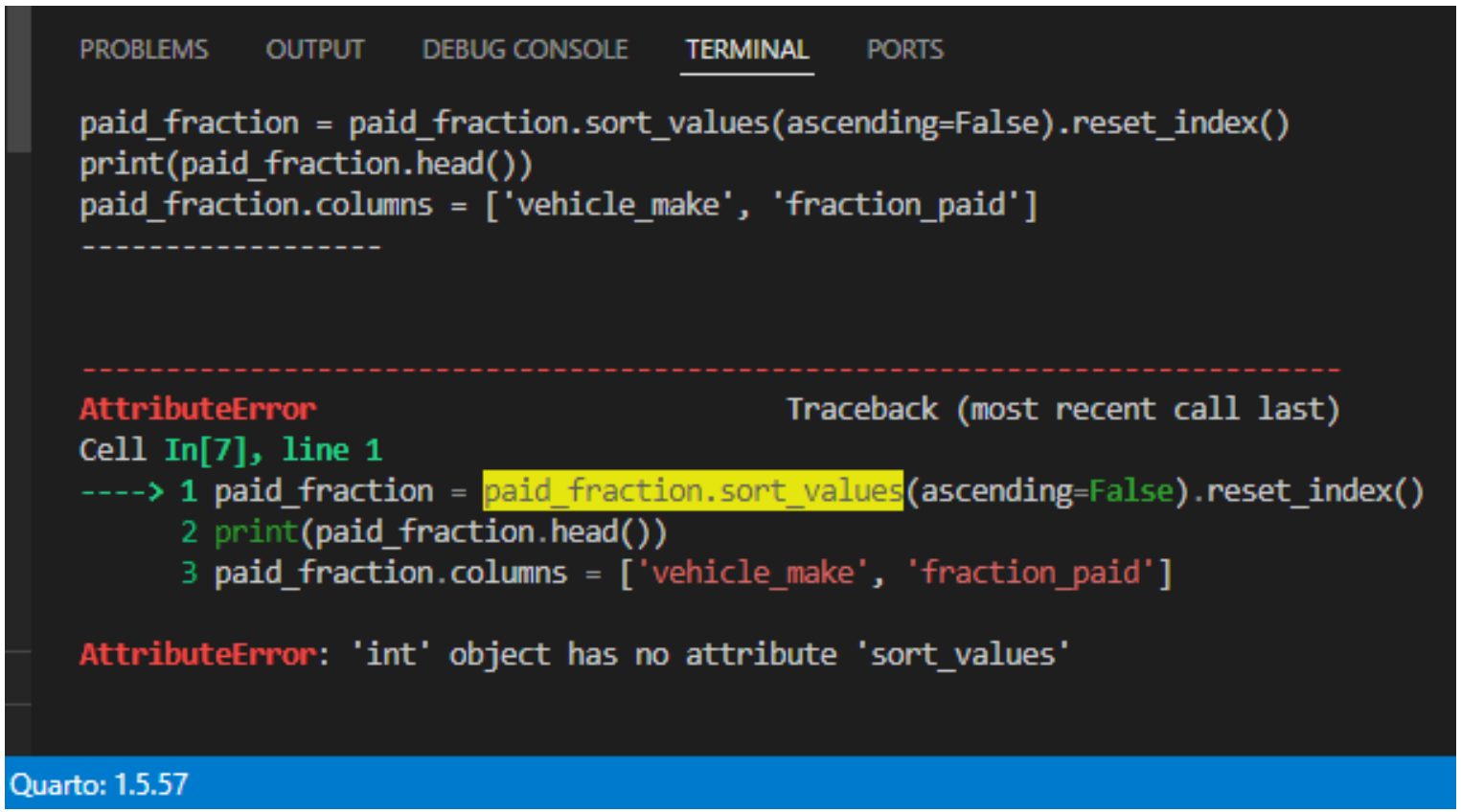
A **reproducible example (reprex)** is a simplified piece of code designed to help others understand and troubleshoot an issue quickly. Reprex involves:

- code that **actually runs**
- code that **I don’t have to run**
- code that **I can easily run**

How to create reprex

1. **Isolate the part of your code** where the issue happens.
2. **Remove unrelated parts** to keep things simple.
3. **Use dummy data**, instead of using real files or large datasets.
4. Make sure **all variables and data are defined**.

Know where the error is!



Your terminal or output panel has all the information.

Can’t see your terminal? Go to Terminal > New Terminal in VSCode menu bar.

Bad example

```
1 paid_fraction = paid_fraction.sort_values(ascending=False).reset_index()
2 print(paid_fraction.head())
3 paid_fraction.columns = ['vehicle_make', 'fraction_paid']
```

- `paid_fraction` is not defined (we don't know what it contains)
- `print()` is not necessary
- Not clear where (and what) the error is

Good example (using reprex)

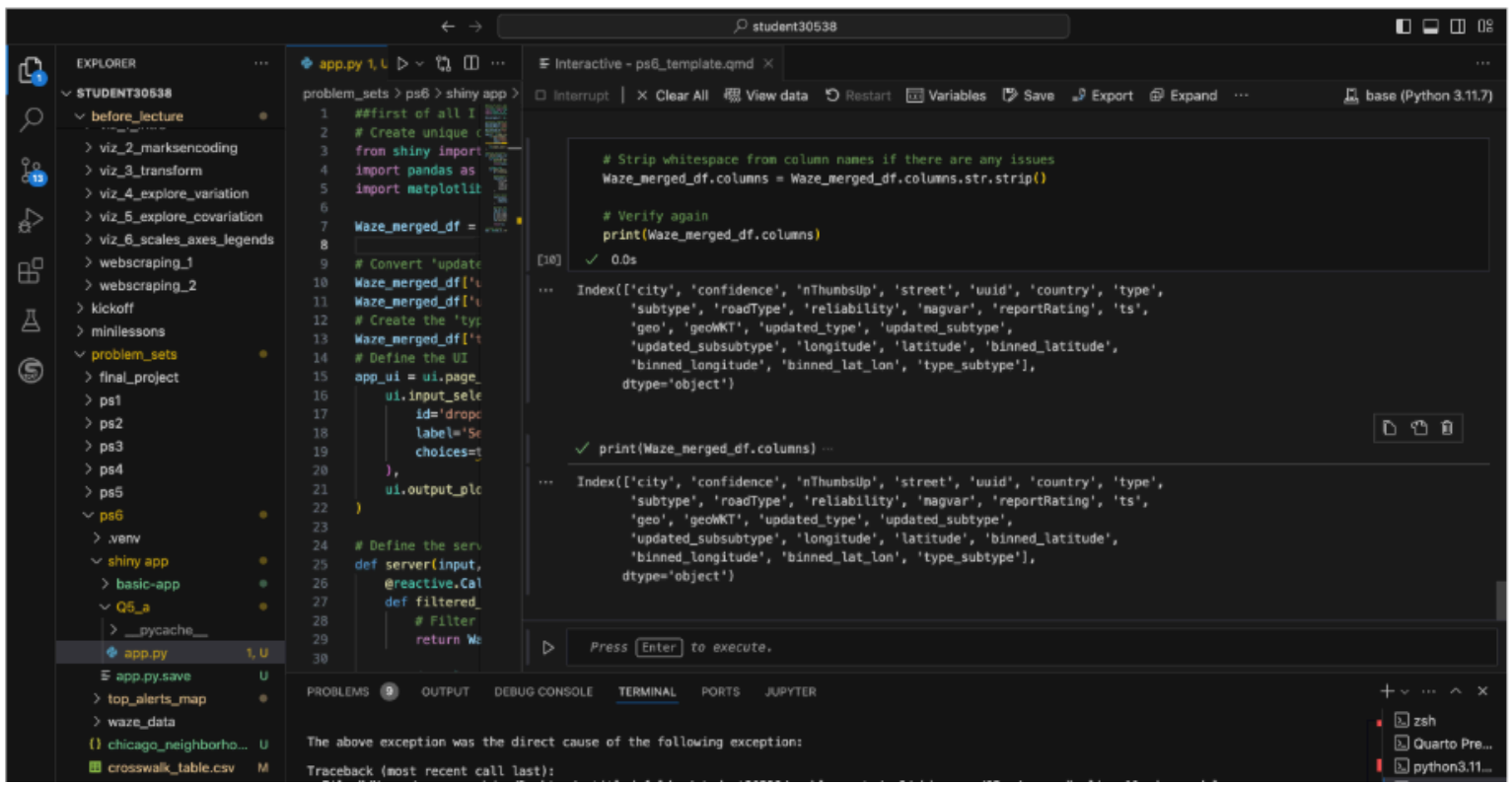
```
1  import pandas as pd
2  df = pd.DataFrame({ "vehicle_make": ["LEXU", "FORD"],
3                      "ticket_queue": ["Paid", "Paid"]})
4
5  ticket_freq = df['vehicle_make'].value_counts()
6  paid_tickets = df[df['ticket_queue'] == 'Paid'].groupby('vehicle_make').siz
7  paid_fraction = dict(paid_tickets / ticket_freq)
8
9  # The following line produces error:
10 # AttributeError: 'dict' object has no attribute 'sort_values'
11 paid_fraction = paid_fraction.sort_values(ascending=False).reset_index()
```

- all variables and data are defined
- focus on where the bug is
- contain only necessary things
- **BUT, doesn't mean you copy the entire code!**

Bad Example (from previous class)

App one is literally not working for me on the most stupid thing, it keeps failing to recognize the "updated-type" and "updated_subtype" columns, even though I printed both of them and they exist, failing to create a dropdown menu.

I have tried everything: changing to strings, creating a list, even GPT does not know what is wrong!



Reproducible Example (Reprex)

Good Example

```
1 import pandas as pd
2 df = pd.DataFrame({"id":[1,2,3], "score":[10,20,30]})
3 # This line will create an error ValueError: Cannot set a DataFrame with mu
4 # df["flag"] = df[df["score"] > 15]
```

- all variables and data are defined
- focus on where the bug is
- contain only necessary things

Thank you!