

# Data in Motion Pandas Challenge Week 11

```
In [1]: import pandas as pd
import json
```

Read in the JSON file.

```
In [2]: df = pd.read_json('nested_list.json')
```

```
In [3]: df.head()
```

```
Out[3]:
```

|   | school_name        | class  | students  |
|---|--------------------|--------|---|
| 0 | ABC primary school | Year 1 | {'id': 'A001', 'name': 'Tom', 'math': 60, 'phy... |
| 1 | ABC primary school | Year 1 | {'id': 'A002', 'name': 'James', 'math': 89, 'p... |
| 2 | ABC primary school | Year 1 | {'id': 'A003', 'name': 'Jenny', 'math': 79, 'p... |

Flatten the nested list from JSON object.

```
In [4]: df2=pd.json_normalize(df.students)
```

```
In [5]: df2.head()
```

```
Out[5]:
```

|   | id   | name  | math | physics | chemistry |
|---|------|-------|------|---------|-----------|
| 0 | A001 | Tom   | 60   | 66      | 61        |
| 1 | A002 | James | 89   | 76      | 51        |
| 2 | A003 | Jenny | 79   | 90      | 78        |

Create a dataframe that includes the flatten list and all original columns

```
In [6]: dfAll=df2.copy()
```

```
In [7]: dfAll['school_name']=df.school_name
```

```
In [8]: dfAll['class']=df['class']
```

```
In [9]: dfAll.head()
```

```
Out[9]:
```

|   | id   | name  | math | physics | chemistry | school_name        | class  |
|---|------|-------|------|---------|-----------|--------------------|--------|
| 0 | A001 | Tom   | 60   | 66      | 61        | ABC primary school | Year 1 |
| 1 | A002 | James | 89   | 76      | 51        | ABC primary school | Year 1 |
| 2 | A003 | Jenny | 79   | 90      | 78        | ABC primary school | Year 1 |

```
In [ ]:
```