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```
[4]: import numpy as np
import pandas as pd
```

```
[5]: weeks = np.arange(1, 201)
```

```
[6]: np.random.seed(42)
```

```
[9]: base_man = 100
trend_man = 0.5
noise_man = np.random.randint(-15, 20, size=len(weeks))
demand_manufactured = base_man + trend_man*weeks + noise_man
```

```
[10]: base_reman = 60
trend_reman = 0.3
noise_reman = np.random.randint(-15, 20, size=len(weeks))
demand_remanufactured = base_reman + trend_reman*weeks + noise_reman
```

```
[11]: df = pd.DataFrame({
    'Week': weeks,
    'Manufactured_Demand': demand_manufactured,
    'Remanufactured_Demand': demand_remanufactured
}).round(2)
df.to_csv('synthetic_cleaned_demand.csv', index=False)
print(df.head())
```