cloth

January 30, 2025

[2]:
```
import numpy as np
import pandas as pd
```

[4]:
```
cl = pd.read_excel("Neprod_tov.xlsx", sheet_name="    ")
```

[15]:
```
cl = cl[cl[cl.columns[0]].notna]
```

[18]:
```
cl = cl[cl[cl.columns[0]].str.contains("    ")]
cl = cl[cl[cl.columns[0]].str.contains("   ") == False]
```

[27]:
```
cl.columns = ["   "] + [str(i) for i in range(2017, 2024)]
```

[28]:
```
from sklearn.linear_model import LinearRegression
```

[51]:
```
X = np.array([i - 2016 for i in range(2017, 2024)])
```

[52]:
```
Y = np.array([np.array([cl[cl[cl.columns[0]]==i][j].to_numpy()[0] for j in cl.
 ↪columns[1::]]) for i in cl[cl.columns[0]]])
```

[54]:
```
lin_arr = [LinearRegression().fit(X.reshape(-1, 1), i) for i in Y]
```

[ ]:
```
col = np.array([i.predict(np.array([8]).reshape(-1, 1)) for i in lin_arr])
```

[57]:
```
cl["2024"] = col
```

[58]:
```
cl["2025"] = np.array([i.predict(np.array([9]).reshape(-1, 1)) for i in␣
 ↪lin_arr])
```

[62]:
```
sc = [sum(cl[cl.columns[i-2016]]) for i in range(2017, 2026)]
print(*sc)
print(sc[-1])
```

```
241.93999999999997 242.74999999999994 256.3999999999999 244.17999999999998
327.0188851472928 358.9870353925903 385.13196552822205 398.43953408360625
424.6062788163612
424.6062788163612
```

[ ]:
```
gl = pd.read_excel("Neprod_tov.xlsx", sheet_name="            ")
gl = gl[gl[gl.columns[0]].notna()]
gl = gl[gl[gl.columns[0]].str.contains("    ")]
gl = gl[gl[gl.columns[0]].str.contains("   ") == False]
gl.columns = ["   "] + [str(i) for i in range(2017, 2024)]
Y = np.array([np.array([gl[gl[gl.columns[0]]==i][j].to_numpy()[0] for j in gl.
 ↪columns[1::]]) for i in gl[gl.columns[0]]])
lin_arr = [LinearRegression().fit(X.reshape(-1, 1), i) for i in Y]
gl["2024"] = np.array([i.predict(np.array([8]).reshape(-1, 1)) for i in␣
 ↪lin_arr])
gl["2025"] = np.array([i.predict(np.array([9]).reshape(-1, 1)) for i in␣
 ↪lin_arr])
sg = [sum(gl[gl.columns[i-2016]]) for i in range(2017, 2026)]
print(*sg)
print(sg[-1])
```