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# -*- coding: utf-8 -*-  
"""
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@author: maxhu  
"""
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```
import numpy as np  
import matplotlib.pyplot as plt
```

```
RPMs = [[] for i in range(0,21)]  
duty_cycles = [[] for i in range(0,21)]
```

```
for i in range(0,21):  
    lines = np.loadtxt('../RPMDATA/RPMs{}.txt'.format(i), delimiter=',')  
    for line in lines:  
        RPMs[i].append(line[1])  
        duty_cycles[i].append(line[0])
```

```
plt.figure(figsize=(20,10))  
for i in range(7,18):  
    plt.plot(duty_cycles[i],RPMs[i], '.-', label = 'Time after % change: {}s'.format(i))  
plt.legend(loc='best')  
plt.xlabel('Duty Cycle as %', fontsize=(12))  
plt.ylabel('Revolutions per Minute (rpm)', fontsize=(12))  
plt.title('RPM vs Duty Cycle at Various Wait Times', fontsize=(12))  
plt.savefig('RPM_Data')
```

```
plt.figure(figsize=(20,10))  
plt.plot(duty_cycles[17],RPMs[17], '.-', color = 'black', label = 'Time after % change: {}s'.format(17))  
plt.legend(loc='best')  
plt.xlabel('Duty Cycle as %', fontsize=(12))  
plt.ylabel('Revolutions per Minute (rpm)', fontsize=(12))  
plt.title('RPM vs Duty Cycle at Various Wait Times', fontsize=(12))  
plt.savefig('RPM_Data_Single')
```