

```
[1]: import pandas as pd
import numpy as np
from scipy import stats

[2]: df = pd.read_excel('Electric_vehicles.xlsx', sheet_name='Auta elektryczne')

[3]: audi_powers = df[df['Make'] == 'Audi']['Engine power [KM]'].dropna().tolist()
tesla_powers = df[df['Make'] == 'Tesla']['Engine power [KM]'].dropna().tolist()

[4]: audi_mean = np.mean(audi_powers)
tesla_mean = np.mean(tesla_powers)
print(f"Audi mean engine power: {audi_mean:.2f} KM")
print(f"Tesla mean engine power: {tesla_mean:.2f} KM")

Audi mean engine power: 392.00 KM
Tesla mean engine power: 533.00 KM

[5]: t_stat, p_value = stats.ttest_ind(audi_powers, tesla_powers, equal_var=True)

[6]: print(f"t-statistic: {t_stat:.3f}")
print(f"p-value: {p_value:.3f}")

t-statistic: -1.702
p-value: 0.117

[7]: alpha = 0.05
if p_value < alpha:
    print("Reject the null hypothesis: There is a significant difference in average engine power.")
else:
    print("Fail to reject the null hypothesis: No significant difference in average engine power.")

Fail to reject the null hypothesis: No significant difference in average engine power.
```

[8]: 📄 ↑