```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import scipy.stats as stats
```

ONE SAMPLE T-TEST

```
sample = [8.8, 6.6, 9.5, 11.2, 10.2, 7.4, 8.0, 9.6, 9.9, 7.6, 7.4, 10.4, 11.1, 8.5, 10.0
popmean = 10
t_statistic, p_value = stats.ttest_1samp(sample, popmean)
print(f"One-sample t-test statistic: {t_statistic}")
print(f"p-value: {p_value}")
```

```
One-sample t-test statistic: -2.0997454093281287
p-value: 0.050115394392415434
```

INDEPENDENT TWO SAMPLE T-TEST

```
sample1 = [10.8, 10.2, 8.9, 9.9, 11.6, 10.1, 11.3, 10.3, 10.7, 9.7, 8.6, 9.7, 11.6, 10.3
sample2 = [7.8, 7.5, 9.5, 11.7, 8.1, 8.8, 8.8, 7.7, 9.7, 7.0, 9.0, 9.7, 11.3, 8.7, 8.8,
t_statistic, p_value = stats.ttest_ind(sample1, sample2, equal_var=True)
print(f"Independent two-sample t-test statistic: {t_statistic}")
print(f"p-value: {p_value}")
```

```
Independent two-sample t-test statistic: 4.002933797113079
p-value: 0.00022075833711308491
```

ANOVA TEST

```
section_A = [51, 45, 33, 45, 67]
section_B = [23, 43, 23, 43, 45]
section_C = [56, 76, 74, 87, 56]
f_statistic, p_value = stats.f_oneway(section_A, section_B, section_C)
print(f"ANOVA F-statistic: {f_statistic}")
print(f"p-value: {p_value}")
```

```
ANOVA F-statistic: 9.747205503009463
p-value: 0.0030597541434430556
```

```
Start coding or generate with AI.
```