

Perform Wilcoxon Rank Sum Test (aka Mann–Whitney U test)

1. Python: <https://docs.scipy.org/doc/scipy/reference/generated/scipy.stats.mannwhitneyu.html>
2. R: <https://www.rdocumentation.org/packages/stats/versions/3.6.2/topics/wilcox.test>

Python

```
import numpy as np
from scipy import stats

x = np.linspace(-15, 15, 100)
y = np.linspace(-12.5, 10.5, 100)

stats.mannwhitneyu(x, y, alternative='two-sided', use_continuity=True)

> MannwhitneyuResult(statistic=5329.0, pvalue=0.42217518140544974)
```

R

```
x = seq(-15, 15, length.out=100)
y = seq(-12.5, 10.5, length.out=100)

wilcox.test(x, y)

>           Wilcoxon rank sum test with continuity correction

data:  x and y
W = 5329, p-value = 0.4222
alternative hypothesis: true location shift is not equal to 0
```