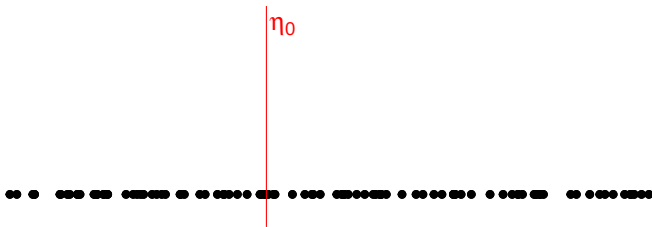


One Sample Case: Sign test



Number $< \eta_0$: 74 out of 100

One Sample Case: Sign test



Number $< \eta_0$: 44 out of 100

One Sample Case: Sign test

If η_0 is in the right place, we expect an **even split** of points either side of the median.

If S is the test statistic we should see

$$S \sim \textit{Binomial}(n, 1/2)$$

Two Sample Case: MWW test

Two samples

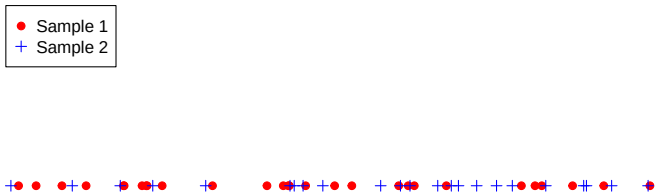
- sample 1 size $n_1 = 28$
- sample 2 size $n_2 = 23$

Sum of all ranks

$$1 + 2 + 3 + \cdots + 50 + 51 = 1326$$

Two Sample Case: MWW test

$$\eta_1 = \eta_2$$



Two Sample Case: MWW test

$$\eta_1 = \eta_2$$

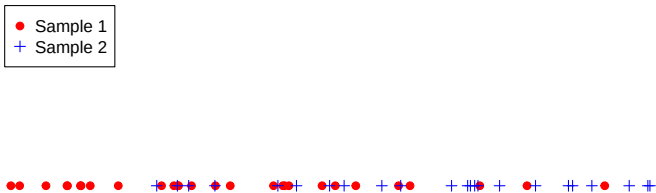


$$R_2 = 682$$



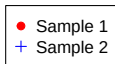
Two Sample Case: MWW test

$$\eta_1 < \eta_2$$

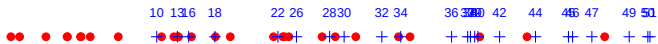


Two Sample Case: MWW test

$$\eta_1 < \eta_2$$

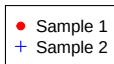


$R_2 = 793$



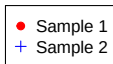
Two Sample Case: MWW test

$$\eta_1 > \eta_2$$



Two Sample Case: MWW test

$$\eta_1 > \eta_2$$

$$R_2 = 403$$


Two Sample Case: MWW test

Support for

$$\eta_1 = \eta_2$$

is found if the ranks are **fully intermingled**. Note that

$$R_1 + R_2 = \frac{n(n+1)}{2}$$

where $n = n_1 + n_2$.