How to Perform the Mann Whitney U Test

Treatment A	Treatment B
3	9
4	7
2	5
6	10
2	6
5	8

$$U_{stat} = Rank_{sum} - \frac{n(n+1)}{2}$$

Ho: There is no difference blw the Ranks of each Treatment

Ha: There is a difference blw the Rank of each Treatment

Rank	Data
1.5 ~~1~~	2
1.5 ~~2~~	2
3	3
4	4
5.5 ~~5~~	5
5.5 ~~6~~	5
7.5 ~~7~~	6
7.5 ~~8~~	6
9	7
10	8
11	9
12	10

Treatment A	Rank	Treatment B	Rank
3	3	9	11
4	4	7	9
2	1.5	5	5.5
6	7.5	10	12
2	1.5	6	7.5
5	5.5	8	10
	$\Sigma = 23.0$		$\Sigma = 55.0$

$$U_A = 23.0 - \frac{6(6+1)}{2} = 23 - 21$$

$$\boxed{U_A = 2.0}$$

$$U_B = 55 - \frac{6(6+1)}{2} = 55 - 21$$

$$\boxed{U_B = 34.0}$$

$U_{stat} = 2.0$

$U_{critical} = 5.0$

$U_{stat} < U_{critical}$ $\quad \alpha = 0.05$

Reject the Ho.

2nd Question

Paper Instruction	Demonstration
73	82
94	66
84	90
45	100
60	87
90	86
78	96
75	100

Ho: The ranks from reading the instructions do not appear to be higher or lower than the ranks of those who recieved the demostration.

Ha: The ranks from reading the instructions appears higher or lower than those recieved the demonstration.