

THE WILCOXON SIGNED RANK TEST (For Paired Differences)

	Samples		Differences	Absolute Value of the Differences	Rank of the Absolute Values
	A	B	A - B	A - B	
1	9	8	1	1	2
2	6	9	-3	3	5
3	8	10	-2	2	4
4	7	7	0	0	
5	10	6	4	4	6
6	5	4	-1	1	2
7	6	5	1	1	2
8	7	7	0	0	

$n = 6$

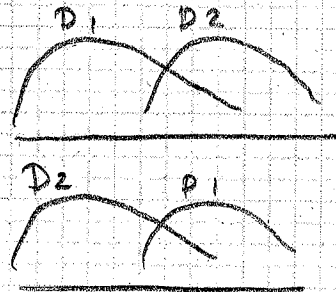
$T_+ = 2 + 6 + 2 = 10$
 $T_- = 5 + 4 + 2 = 11$

Step 1 H_0 : D_1 and D_2 are identical

H_a : 1) D_1 is shifted left of D_2

2) D_1 is shifted right of D_2

3) D_1 is shifted left or right of D_2



1	1	1	2	3	4
1	2	3	4	5	6
2	2	2	4	5	6

Step 2 Test statistic

1) Test stat = $T_+ = 10$

2) Test stat = $T_- = 11$

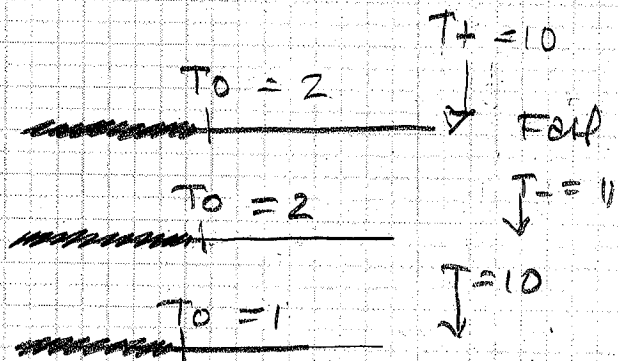
3) Test stat = smaller of T_+ or $T_- = T_+ = 10$

Step 3 Rejection Region

1) $T_+ \leq T_0$

2) $T_- \leq T_0$

3) $T \leq T_0$



Step 4 Decision: Fail to reject H_0

Step 5 Conclusion: "The data provide insufficient evidence to conclude that D_1 is shifted of D_2 , at $\alpha = .05$ "