

**CCOD**  
**Lab 5 07.10.2016**  
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We have 25 rules. X(speed) and Y(distance) in all combinations (from very slow to very strong). Z(break) we choose by ourselves

1. IF x=very slow AND y= very short THEN z= strong
2. IF x=very slow AND y= short THEN z=medium
3. IF x=very slow AND y= medium THEN z=weak
4. IF x=very slow AND y= long THEN z=very weak
5. IF x=very slow AND y= very long THEN z=very weak
  
6. IF x= slow AND y= very short THEN z=very strong
7. IF x= slow AND y= short THEN z= strong
8. IF x= slow AND y= medium THEN z=medium
9. IF x= slow AND y= long THEN z=weak
10. IF x= slow AND y= very long THEN z=weak
  
11. IF x=medium AND y= very short THEN z=very strong
12. IF x= medium AND y= short THEN z=strong
13. IF x= medium AND y= medium THEN z=medium
14. IF x= medium AND y= long THEN z=weak
15. IF x= medium AND y= very long THEN z=very weak
  
16. IF x=fast AND y= very short THEN z=very strong
17. IF x=fast AND y= short THEN z= strong
18. IF x=fast AND y= medium THEN z= strong
19. IF x=fast AND y= long THEN z=medium
20. IF x=fast AND y= very long THEN z=weak
  
21. IF x=very fast AND y= very short THEN z=very strong
22. IF x=very fast AND y= short THEN z=very strong
23. IF x=very fast AND y= medium THEN z= strong
24. IF x=very fast AND y= long THEN z=medium
25. IF x=very fast AND y= very long THEN z=weak

Table with speed, distance and calculated values of balance:

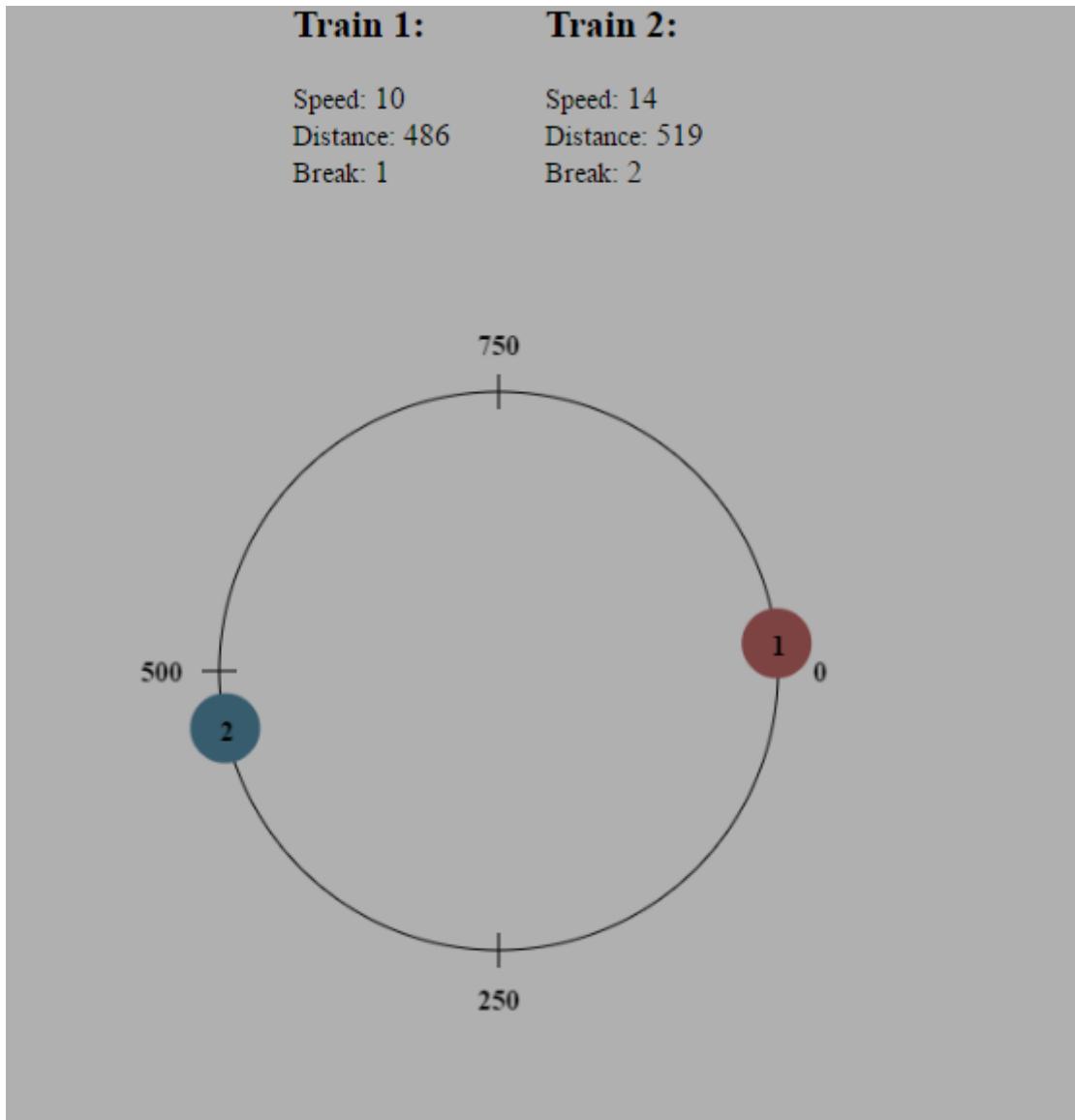
Break	Speed	Distance									
0,8750	0	0	3,0000	6	0	4,5000	11	0	7,5333	16	0
0,8750	0	50	3,0000	6	50	4,5000	11	50	7,5333	16	50
0,8750	0	100	3,0000	6	100	4,5000	11	100	7,5333	16	100
0,8750	0	150	3,0000	6	150	3,6250	11	150	7,2778	16	150
0,8750	0	200	3,0000	6	200	3,2353	11	200	5,3750	16	200
0,8750	0	250	2,2857	6	250	2,5217	11	250	4,8500	16	250
0,8750	0	300	1,6667	6	300	1,9231	11	300	4,5000	16	300
0,8750	0	350	1,2143	6	350	1,5484	11	350	4,1500	16	350
0,8750	0	400	0,8750	6	400	1,2143	11	400	3,6250	16	400
0,8750	0	450	0,8750	6	450	1,2143	11	450	2,7727	16	450
0,8750	0	500	0,8750	6	500	1,3500	11	500	2,2667	16	500
0,8750	0	550	0,8750	6	550	1,2143	11	550	1,9231	16	550
0,8750	0	600	0,8750	6	600	0,8750	11	600	1,6667	16	600
0,8750	0	650	0,8750	6	650	0,8750	11	650	1,6667	16	650
0,8750	0	700	0,8750	6	700	0,8750	11	700	1,6667	16	700
0,8750	0	750	0,8750	6	750	0,8750	11	750	1,3500	16	750
0,8750	0	800	0,8750	6	800	0,8750	11	800	0,8750	16	800
0,8750	0	850	0,8750	6	850	0,8750	11	850	0,8750	16	850
0,8750	0	900	0,8750	6	900	0,8750	11	900	0,8750	16	900
0,8750	0	950	0,8750	6	950	0,8750	11	950	0,8750	16	950
0,8750	0	1000	0,8750	6	1000	0,8750	11	1000	0,8750	16	1000
0,8750	1	0	3,2353	7	0	4,5000	12	0	8,1892	17	0
0,8750	1	50	3,2353	7	50	4,5000	12	50	8,1892	17	50
0,8750	1	100	3,2353	7	100	4,5000	12	100	8,1892	17	100
0,8750	1	150	3,3333	7	150	3,6250	12	150	7,6250	17	150
0,8750	1	200	3,0000	7	200	3,6250	12	200	5,7647	17	200
0,8750	1	250	2,2857	7	250	2,7727	12	250	5,1905	17	250
0,8750	1	300	1,6667	7	300	2,2667	12	300	4,8500	17	300
0,8750	1	350	1,2143	7	350	1,9231	12	350	4,5000	17	350
0,8750	1	400	0,8750	7	400	1,6667	12	400	4,0625	17	400
0,8750	1	450	0,8750	7	450	1,6667	12	450	3,0435	17	450
0,8750	1	500	0,8750	7	500	1,6667	12	500	2,7727	17	500
0,8750	1	550	0,8750	7	550	1,3500	12	550	2,5217	17	550
0,8750	1	600	0,8750	7	600	0,8750	12	600	2,2857	17	600
0,8750	1	650	0,8750	7	650	0,8750	12	650	2,2857	17	650
0,8750	1	700	0,8750	7	700	0,8750	12	700	1,6667	17	700
0,8750	1	750	0,8750	7	750	0,8750	12	750	1,2143	17	750
0,8750	1	800	0,8750	7	800	0,8750	12	800	0,8750	17	800
0,8750	1	850	0,8750	7	850	0,8750	12	850	0,8750	17	850
0,8750	1	900	0,8750	7	900	0,8750	12	900	0,8750	17	900
0,8750	1	950	0,8750	7	950	0,8750	12	950	0,8750	17	950
0,8750	1	1000	0,8750	7	1000	0,8750	12	1000	0,8750	17	1000
0,8750	2	0	3,6250	8	0	4,5000	13	0	8,6364	18	0
0,8750	2	50	3,6250	8	50	4,5000	13	50	8,6364	18	50
0,8750	2	100	3,6250	8	100	4,5000	13	100	8,6364	18	100
0,8750	2	150	3,6250	8	150	3,9167	13	150	7,8667	18	150
0,8750	2	200	3,0000	8	200	4,0625	13	200	6,0000	18	200
0,8750	2	250	2,0625	8	250	3,0435	13	250	5,7647	18	250
0,8750	2	300	1,6667	8	300	2,7727	13	300	5,3750	18	300
0,8750	2	350	1,3500	8	350	2,5217	13	350	4,9375	18	350
0,8750	2	400	0,8750	8	400	2,2857	13	400	4,5000	18	400
0,8750	2	450	0,8750	8	450	2,2857	13	450	4,0625	18	450
0,8750	2	500	0,8750	8	500	1,6667	13	500	3,6250	18	500
0,8750	2	550	0,8750	8	550	1,2143	13	550	3,2353	18	550
0,8750	2	600	0,8750	8	600	0,8750	13	600	3,0000	18	600
0,8750	2	650	0,8750	8	650	0,8750	13	650	2,2857	18	650
0,8750	2	700	0,8750	8	700	0,8750	13	700	1,6667	18	700
0,8750	2	750	0,8750	8	750	0,8750	13	750	1,2143	18	750
0,8750	2	800	0,8750	8	800	0,8750	13	800	0,8750	18	800
0,8750	2	850	0,8750	8	850	0,8750	13	850	0,8750	18	850
0,8750	2	900	0,8750	8	900	0,8750	13	900	0,8750	18	900
0,8750	2	950	0,8750	8	950	0,8750	13	950	0,8750	18	950
0,8750	2	1000	0,8750	8	1000	0,8750	13	1000	0,8750	18	1000
0,8750	3	0	4,0625	9	0	4,5000	14	0	8,6364	19	0
1,2143	3	50	4,0625	9	50	4,5000	14	50	8,6364	19	50
1,2143	3	100	4,0625	9	100	4,5000	14	100	8,6364	19	100
1,2143	3	150	3,6250	9	150	4,5000	14	150	7,8667	19	150
1,2143	3	200	3,0000	9	200	4,5000	14	200	6,0000	19	200
1,2143	3	250	2,2857	9	250	4,0625	14	250	5,7647	19	250
1,2143	3	300	1,6667	9	300	3,6250	14	300	5,3750	19	300
1,2143	3	350	1,2143	9	350	3,2353	14	350	4,9375	19	350
0,8750	3	400	0,8750	9	400	3,0000	14	400	4,5000	19	400
0,8750	3	450	0,8750	9	450	2,2857	14	450	4,0625	19	450
0,8750	3	500	0,8750	9	500	1,6667	14	500	3,6250	19	500
0,8750	3	550	0,8750	9	550	1,2143	14	550	3,2353	19	550
0,8750	3	600	0,8750	9	600	0,8750	14	600	3,0000	19	600
0,8750	3	650	0,8750	9	650	0,8750	14	650	2,2857	19	650
0,8750	3	700	0,8750	9	700	0,8750	14	700	1,6667	19	700
0,8750	3	750	0,8750	9	750	0,8750	14	750	1,2143	19	750
0,8750	3	800	0,8750	9	800	0,8750	14	800	0,8750	19	800
0,8750	3	850	0,8750	9	850	0,8750	14	850	0,8750	19	850
0,8750	3	900	0,8750	9	900	0,8750	14	900	0,8750	19	900
0,8750	3	950	0,8750	9	950	0,8750	14	950	0,8750	19	950
0,8750	3	1000	0,8750	9	1000	0,8750	14	1000	0,8750	19	1000
1,6667	4	0	4,5000	10	0	6,4783	15	0	8,6364	20	0
1,6667	4	50	4,5000	10	50	6,4783	15	50	8,6364	20	50
1,6667	4	100	4,5000	10	100	6,4783	15	100	8,6364	20	100
1,6667	4	150	3,6250	10	150	6,7727	15	150	7,8667	20	150
1,6667	4	200	3,0000	10	200	4,9375	15	200	6,0000	20	200
1,6667	4	250	2,2857	10	250	4,5000	15	250	5,7647	20	250
1,6667	4	300	1,6667	10	300	4,1500	15	300	5,3750	20	300
1,3500	4	350	1,2143	10	350	3,8095	15	350	4,9375	20	350
0,8750	4	400	0,8750	10	400	3,2353	15	400	4,5000	20	400
0,8750	4	450	0,8750	10	450	2,5217	15	450	4,0625	20	450
0,8750	4	500	0,8750	10	500	1,9231	15	500	3,6250	20	500
0,8750	4	550	0,8750	10	550	1,5484	15	550	3,2353	20	550
0,8750	4	600	0,8750	10	600	1,2143	15	600	3,0000	20	600
0,8750	4	650	0,8750	10	650	1,2143	15	650	2,2857	20	650
0,8750	4	700	0,8750	10	700	1,3500	15	700	1,6667	20	700
0,8750	4	750	0,8750	10	750	1,2143	15	750	1,2143	20	750
0,8750	4	800	0,8750	10	800	0,8750	15	800	0,8750	20	800
0,8750	4	850	0,8750	10	850	0,8750	15	850	0,8750	20	850
0,8750											

Below you can find 5 snapshots. Because of rules and changes of the speed, I can't get break value higher than 4

Balance from the table:

Train 1: 0.875

Train 2: 1.6667



Balance from the table:

Train 1: 2.7727

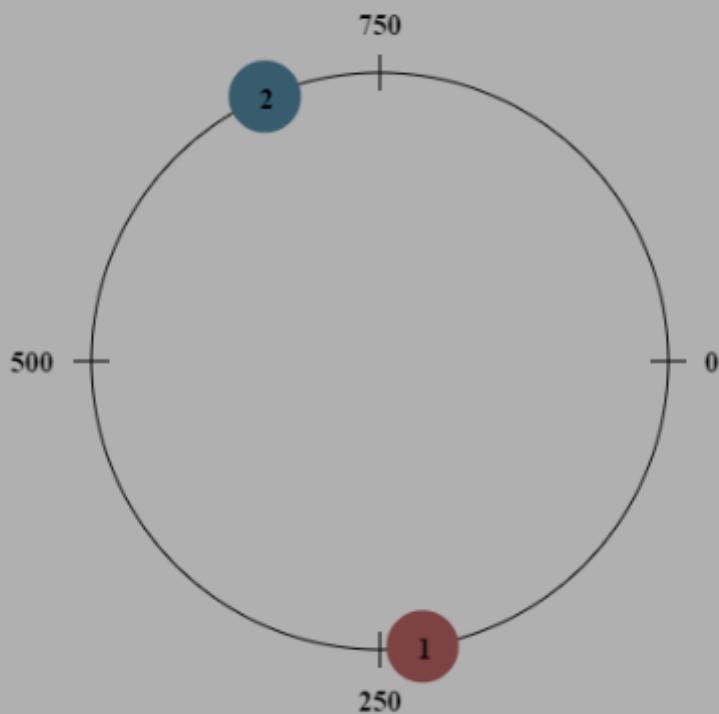
Train 2: 0.875

**Train 1:**

Speed: 16  
Distance: 461  
Break: 3

**Train 2:**

Speed: 1  
Distance: 544  
Break: 1



Balance from the table:

Train 1: 1.6667

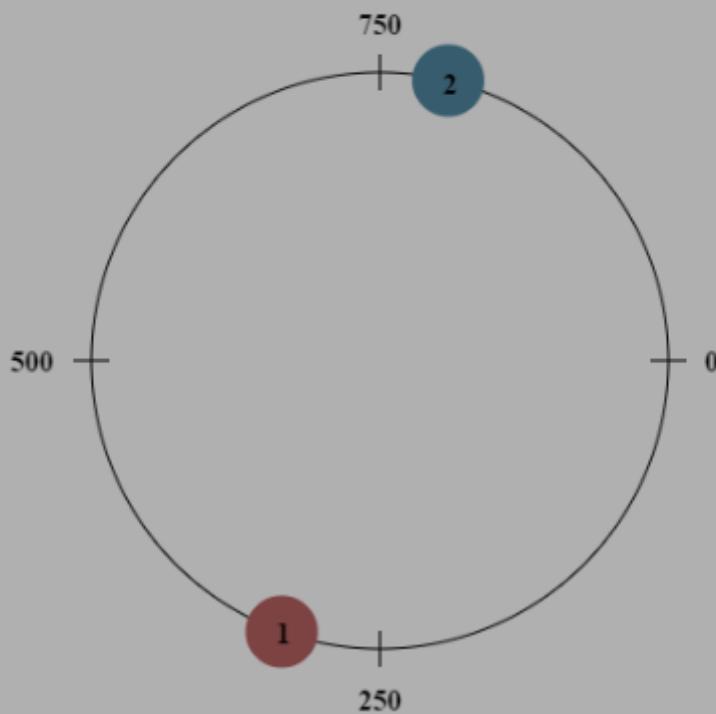
Train 2: 2.7727

**Train 1:**

Speed: 12  
Distance: 485  
Break: 2

**Train 2:**

Speed: 17  
Distance: 520  
Break: 3



Balance from the table:

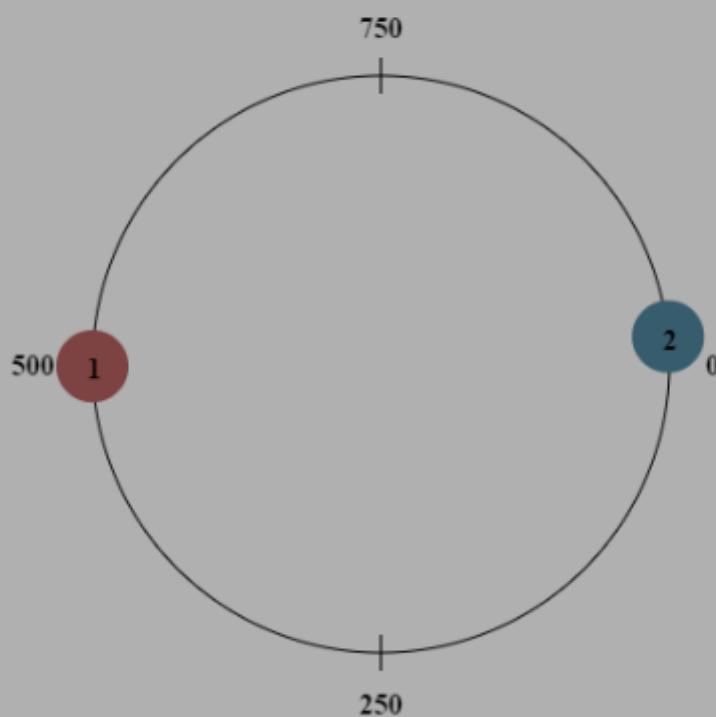
Train 1: 2.7727

Train 2: 3.625

**Train 1:**      **Train 2:**

Speed: 17  
Distance: 489  
Break: 3

Speed: 18  
Distance: 516  
Break: 4



Balance from the table:

Train 1: 0.875

Train 2: 4.0625

**Train 1:**

Speed: 9  
Distance: 557  
Break: 1

**Train 2:**

Speed: 20  
Distance: 448  
Break: 4

