

## **Bots**

- Bot 1:  
Simple bot, with a simple strategy. It just plays the cheapest card available to it.
- Bot 2:  
Simple bot, with a simple strategy It just plays the most expensive card available to it.
- Bot 3:  
An advanced bot, which uses a KB. It has a more neutral approach than the other two bots. It decides when to play a cheap card and when to play an expensive one depending on the situation. For example, if the opponent plays a card, and this bot has a card of the same suit with a higher value, it'll play that card. However, if this bot doesn't have anything, it'll play the cheapest card to lose the least amount of points. Apart from this, it can also do a Trump exchange and Marriage.

## **Experiments**

The experiment consists of a tournament between rand, bully, rdeep, and the bot we created, that is the cheapest first bot, expensive first bot, and the neutral bot.

By conducting the experiment, we try to determine the win rate of these bots, and consecutively, the performance of each of them. We can also determine how a complex strategy affects the performance of a bot, as compared to a simple strategy.

## **Variables**

- Win rate

## Tournament Results

- Rand vs Bully vs Rdeep vs Neutral:

Bots	Games Won	Points
Rand	5	5
Bully	9	24
Rdeep	25	47
Neutral	21	30

Playing 60 games:

Played 1 out of 60 games (2%): [1, 0, 0, 0]  
Played 2 out of 60 games (3%): [1, 3, 0, 0]  
Played 3 out of 60 games (5%): [1, 5, 0, 0]  
Played 4 out of 60 games (7%): [2, 5, 0, 0]  
Played 5 out of 60 games (8%): [2, 8, 0, 0]  
Played 6 out of 60 games (10%): [3, 8, 0, 0]  
Played 7 out of 60 games (12%): [3, 11, 0, 0]  
Played 8 out of 60 games (13%): [3, 14, 0, 0]  
Played 9 out of 60 games (15%): [3, 17, 0, 0]  
Played 10 out of 60 games (17%): [3, 20, 0, 0]  
Played 11 out of 60 games (18%): [3, 20, 2, 0]  
Played 12 out of 60 games (20%): [3, 20, 3, 0]  
Played 13 out of 60 games (22%): [3, 20, 5, 0]  
Played 14 out of 60 games (23%): [3, 20, 8, 0]  
Played 15 out of 60 games (25%): [3, 20, 11, 0]  
Played 16 out of 60 games (27%): [3, 20, 14, 0]  
Played 17 out of 60 games (28%): [3, 20, 15, 0]  
Played 18 out of 60 games (30%): [3, 20, 17, 0]  
Played 19 out of 60 games (32%): [3, 20, 20, 0]  
Played 20 out of 60 games (33%): [4, 20, 20, 0]  
Played 21 out of 60 games (35%): [4, 20, 20, 3]  
Played 22 out of 60 games (37%): [4, 20, 20, 4]  
Played 23 out of 60 games (38%): [4, 20, 20, 6]  
Played 24 out of 60 games (40%): [4, 20, 20, 7]  
Played 25 out of 60 games (42%): [4, 20, 20, 8]  
Played 26 out of 60 games (43%): [4, 20, 20, 9]  
Played 27 out of 60 games (45%): [4, 20, 20, 10]  
Played 28 out of 60 games (47%): [5, 20, 20, 10]  
Played 29 out of 60 games (48%): [5, 20, 20, 13]  
Played 30 out of 60 games (50%): [5, 20, 20, 15]  
Played 31 out of 60 games (52%): [5, 20, 22, 15]  
Played 32 out of 60 games (53%): [5, 20, 23, 15]  
Played 33 out of 60 games (55%): [5, 22, 23, 15]  
Played 34 out of 60 games (57%): [5, 22, 24, 15]  
Played 35 out of 60 games (58%): [5, 22, 26, 15]

Played 36 out of 60 games (60%): [5, 22, 29, 15]  
 Played 37 out of 60 games (62%): [5, 22, 30, 15]  
 Played 38 out of 60 games (63%): [5, 22, 31, 15]  
 Played 39 out of 60 games (65%): [5, 22, 33, 15]  
 Played 40 out of 60 games (67%): [5, 22, 35, 15]  
 Played 41 out of 60 games (68%): [5, 22, 35, 16]  
 Played 42 out of 60 games (70%): [5, 22, 35, 17]  
 Played 43 out of 60 games (72%): [5, 22, 35, 18]  
 Played 44 out of 60 games (73%): [5, 24, 35, 18]  
 Played 45 out of 60 games (75%): [5, 24, 35, 19]  
 Played 46 out of 60 games (77%): [5, 24, 35, 21]  
 Played 47 out of 60 games (78%): [5, 24, 35, 23]  
 Played 48 out of 60 games (80%): [5, 24, 35, 25]  
 Played 49 out of 60 games (82%): [5, 24, 35, 26]  
 Played 50 out of 60 games (83%): [5, 24, 35, 27]  
 Played 51 out of 60 games (85%): [5, 24, 36, 27]  
 Played 52 out of 60 games (87%): [5, 24, 37, 27]  
 Played 53 out of 60 games (88%): [5, 24, 39, 27]  
 Played 54 out of 60 games (90%): [5, 24, 39, 29]  
 Played 55 out of 60 games (92%): [5, 24, 42, 29]  
 Played 56 out of 60 games (93%): [5, 24, 43, 29]  
 Played 57 out of 60 games (95%): [5, 24, 43, 30]  
 Played 58 out of 60 games (97%): [5, 24, 44, 30]  
 Played 59 out of 60 games (98%): [5, 24, 45, 30]  
 Played 60 out of 60 games (100%): [5, 24, 47, 30]

Results:

bot <bots.rand.rand.Bot object at 0x7fc99bc8e220>: 5 points  
 bot <bots.bully.bully.Bot object at 0x7fc99bc8e310>: 24 points  
 bot <bots.rdeep.rdeep.Bot object at 0x7fc99bc8e340>: 47 points  
 bot <bots.mybot.mybot.Bot object at 0x7fc99bc8e250>: 30 points

- Rand vs Bully vs Rdeep vs Cheapest:

Bots	Games Won	Points
Rand	9	11
Bully	11	25
Rdeep	23	35
Cheapest	17	26

Playing 60 games:

Played 1 out of 60 games (2%): [0, 3, 0, 0]  
 Played 2 out of 60 games (3%): [0, 6, 0, 0]  
 Played 3 out of 60 games (5%): [1, 6, 0, 0]  
 Played 4 out of 60 games (7%): [2, 6, 0, 0]  
 Played 5 out of 60 games (8%): [3, 6, 0, 0]  
 Played 6 out of 60 games (10%): [3, 8, 0, 0]  
 Played 7 out of 60 games (12%): [3, 11, 0, 0]  
 Played 8 out of 60 games (13%): [4, 11, 0, 0]

Played 9 out of 60 games (15%): [4, 14, 0, 0]  
Played 10 out of 60 games (17%): [4, 16, 0, 0]  
Played 11 out of 60 games (18%): [4, 16, 2, 0]  
Played 12 out of 60 games (20%): [5, 16, 2, 0]  
Played 13 out of 60 games (22%): [5, 16, 5, 0]  
Played 14 out of 60 games (23%): [5, 16, 7, 0]  
Played 15 out of 60 games (25%): [5, 16, 9, 0]  
Played 16 out of 60 games (27%): [5, 16, 10, 0]  
Played 17 out of 60 games (28%): [5, 16, 11, 0]  
Played 18 out of 60 games (30%): [6, 16, 11, 0]  
Played 19 out of 60 games (32%): [6, 16, 13, 0]  
Played 20 out of 60 games (33%): [6, 16, 15, 0]  
Played 21 out of 60 games (35%): [7, 16, 15, 0]  
Played 22 out of 60 games (37%): [7, 16, 15, 3]  
Played 23 out of 60 games (38%): [7, 16, 15, 5]  
Played 24 out of 60 games (40%): [7, 16, 15, 7]  
Played 25 out of 60 games (42%): [9, 16, 15, 7]  
Played 26 out of 60 games (43%): [9, 16, 15, 8]  
Played 27 out of 60 games (45%): [9, 16, 15, 10]  
Played 28 out of 60 games (47%): [11, 16, 15, 10]  
Played 29 out of 60 games (48%): [11, 16, 15, 11]  
Played 30 out of 60 games (50%): [11, 16, 15, 12]  
Played 31 out of 60 games (52%): [11, 17, 15, 12]  
Played 32 out of 60 games (53%): [11, 17, 16, 12]  
Played 33 out of 60 games (55%): [11, 17, 17, 12]  
Played 34 out of 60 games (57%): [11, 17, 18, 12]  
Played 35 out of 60 games (58%): [11, 17, 19, 12]  
Played 36 out of 60 games (60%): [11, 17, 21, 12]  
Played 37 out of 60 games (62%): [11, 18, 21, 12]  
Played 38 out of 60 games (63%): [11, 18, 23, 12]  
Played 39 out of 60 games (65%): [11, 18, 24, 12]  
Played 40 out of 60 games (67%): [11, 18, 26, 12]  
Played 41 out of 60 games (68%): [11, 20, 26, 12]  
Played 42 out of 60 games (70%): [11, 22, 26, 12]  
Played 43 out of 60 games (72%): [11, 22, 26, 13]  
Played 44 out of 60 games (73%): [11, 22, 26, 14]  
Played 45 out of 60 games (75%): [11, 22, 26, 16]  
Played 46 out of 60 games (77%): [11, 25, 26, 16]  
Played 47 out of 60 games (78%): [11, 25, 26, 18]  
Played 48 out of 60 games (80%): [11, 25, 26, 19]  
Played 49 out of 60 games (82%): [11, 25, 26, 20]  
Played 50 out of 60 games (83%): [11, 25, 26, 21]  
Played 51 out of 60 games (85%): [11, 25, 26, 22]  
Played 52 out of 60 games (87%): [11, 25, 28, 22]  
Played 53 out of 60 games (88%): [11, 25, 28, 23]  
Played 54 out of 60 games (90%): [11, 25, 28, 24]  
Played 55 out of 60 games (92%): [11, 25, 30, 24]  
Played 56 out of 60 games (93%): [11, 25, 32, 24]  
Played 57 out of 60 games (95%): [11, 25, 32, 25]  
Played 58 out of 60 games (97%): [11, 25, 34, 25]  
Played 59 out of 60 games (98%): [11, 25, 34, 26]

Played 60 out of 60 games (100%): [11, 25, 35, 26]

Results:

bot <bots.rand.rand.Bot object at 0x7ff0ed498220>: 11 points

bot <bots.bully.bully.Bot object at 0x7ff0ed498310>: 25 points

bot <bots.rdeep.rdeep.Bot object at 0x7ff0ed498340>: 35 points

bot <bots.cheapest.cheapest.Bot object at 0x7ff0ed498250>: 26 points

- Rand vs Bully vs Rdeep vs Expensive:

Bots	Games Won	Points
Rand	9	13
Bully	17	40
Rdeep	24	43
Expensive	10	17

Playing 60 games:

Played 1 out of 60 games (2%): [1, 0, 0, 0]

Played 2 out of 60 games (3%): [1, 3, 0, 0]

Played 3 out of 60 games (5%): [1, 6, 0, 0]

Played 4 out of 60 games (7%): [1, 9, 0, 0]

Played 5 out of 60 games (8%): [1, 12, 0, 0]

Played 6 out of 60 games (10%): [3, 12, 0, 0]

Played 7 out of 60 games (12%): [4, 12, 0, 0]

Played 8 out of 60 games (13%): [4, 15, 0, 0]

Played 9 out of 60 games (15%): [4, 17, 0, 0]

Played 10 out of 60 games (17%): [4, 20, 0, 0]

Played 11 out of 60 games (18%): [4, 20, 2, 0]

Played 12 out of 60 games (20%): [4, 20, 5, 0]

Played 13 out of 60 games (22%): [4, 20, 6, 0]

Played 14 out of 60 games (23%): [4, 20, 8, 0]

Played 15 out of 60 games (25%): [4, 20, 11, 0]

Played 16 out of 60 games (27%): [4, 20, 12, 0]

Played 17 out of 60 games (28%): [4, 20, 14, 0]

Played 18 out of 60 games (30%): [4, 20, 15, 0]

Played 19 out of 60 games (32%): [5, 20, 15, 0]

Played 20 out of 60 games (33%): [5, 20, 17, 0]

Played 21 out of 60 games (35%): [5, 20, 17, 3]

Played 22 out of 60 games (37%): [5, 20, 17, 5]

Played 23 out of 60 games (38%): [5, 20, 17, 6]

Played 24 out of 60 games (40%): [5, 20, 17, 9]

Played 25 out of 60 games (42%): [7, 20, 17, 9]

Played 26 out of 60 games (43%): [10, 20, 17, 9]

Played 27 out of 60 games (45%): [11, 20, 17, 9]

Played 28 out of 60 games (47%): [12, 20, 17, 9]

Played 29 out of 60 games (48%): [13, 20, 17, 9]

Played 30 out of 60 games (50%): [13, 20, 17, 11]

Played 31 out of 60 games (52%): [13, 20, 18, 11]

Played 32 out of 60 games (53%): [13, 20, 20, 11]

Played 33 out of 60 games (55%): [13, 20, 21, 11]  
 Played 34 out of 60 games (57%): [13, 20, 23, 11]  
 Played 35 out of 60 games (58%): [13, 20, 26, 11]  
 Played 36 out of 60 games (60%): [13, 20, 28, 11]  
 Played 37 out of 60 games (62%): [13, 20, 29, 11]  
 Played 38 out of 60 games (63%): [13, 20, 31, 11]  
 Played 39 out of 60 games (65%): [13, 21, 31, 11]  
 Played 40 out of 60 games (67%): [13, 22, 31, 11]  
 Played 41 out of 60 games (68%): [13, 22, 31, 12]  
 Played 42 out of 60 games (70%): [13, 23, 31, 12]  
 Played 43 out of 60 games (72%): [13, 25, 31, 12]  
 Played 44 out of 60 games (73%): [13, 28, 31, 12]  
 Played 45 out of 60 games (75%): [13, 31, 31, 12]  
 Played 46 out of 60 games (77%): [13, 34, 31, 12]  
 Played 47 out of 60 games (78%): [13, 35, 31, 12]  
 Played 48 out of 60 games (80%): [13, 37, 31, 12]  
 Played 49 out of 60 games (82%): [13, 40, 31, 12]  
 Played 50 out of 60 games (83%): [13, 40, 31, 14]  
 Played 51 out of 60 games (85%): [13, 40, 33, 14]  
 Played 52 out of 60 games (87%): [13, 40, 35, 14]  
 Played 53 out of 60 games (88%): [13, 40, 37, 14]  
 Played 54 out of 60 games (90%): [13, 40, 37, 15]  
 Played 55 out of 60 games (92%): [13, 40, 38, 15]  
 Played 56 out of 60 games (93%): [13, 40, 40, 15]  
 Played 57 out of 60 games (95%): [13, 40, 42, 15]  
 Played 58 out of 60 games (97%): [13, 40, 42, 16]  
 Played 59 out of 60 games (98%): [13, 40, 43, 16]  
 Played 60 out of 60 games (100%): [13, 40, 43, 17]

Results:

bot <bots.rand.rand.Bot object at 0x7fa8cc48e220>: 13 points  
 bot <bots.bully.bully.Bot object at 0x7fa8cc48e310>: 40 points  
 bot <bots.rdeep.rdeep.Bot object at 0x7fa8cc48e340>: 43 points  
 bot <bots.expensive.expensive.Bot object at 0x7fa8cc48e250>: 17 points

- Rand vs Bully vs Rdeep vs Neutral vs Cheap vs Expensive:

Bots	Games Won	Points
Rand	19	27
Bully	18	38
Rdeep	43	88
Neutral	30	53
Cheapest	27	40
Expensive	13	27

Playing 150 games:

Played 1 out of 150 games (1%): [1, 0, 0, 0, 0, 0]  
Played 2 out of 150 games (1%): [1, 1, 0, 0, 0, 0]  
Played 3 out of 150 games (2%): [1, 3, 0, 0, 0, 0]  
Played 4 out of 150 games (3%): [1, 6, 0, 0, 0, 0]  
Played 5 out of 150 games (3%): [2, 6, 0, 0, 0, 0]  
Played 6 out of 150 games (4%): [3, 6, 0, 0, 0, 0]  
Played 7 out of 150 games (5%): [3, 7, 0, 0, 0, 0]  
Played 8 out of 150 games (5%): [4, 7, 0, 0, 0, 0]  
Played 9 out of 150 games (6%): [5, 7, 0, 0, 0, 0]  
Played 10 out of 150 games (7%): [5, 9, 0, 0, 0, 0]  
Played 11 out of 150 games (7%): [5, 9, 3, 0, 0, 0]  
Played 12 out of 150 games (8%): [5, 9, 6, 0, 0, 0]  
Played 13 out of 150 games (9%): [5, 9, 7, 0, 0, 0]  
Played 14 out of 150 games (9%): [5, 9, 10, 0, 0, 0]  
Played 15 out of 150 games (10%): [5, 9, 13, 0, 0, 0]  
Played 16 out of 150 games (11%): [5, 9, 16, 0, 0, 0]  
Played 17 out of 150 games (11%): [5, 9, 19, 0, 0, 0]  
Played 18 out of 150 games (12%): [5, 9, 22, 0, 0, 0]  
Played 19 out of 150 games (13%): [5, 9, 25, 0, 0, 0]  
Played 20 out of 150 games (13%): [5, 9, 27, 0, 0, 0]  
Played 21 out of 150 games (14%): [5, 9, 27, 2, 0, 0]  
Played 22 out of 150 games (15%): [5, 9, 27, 5, 0, 0]  
Played 23 out of 150 games (15%): [5, 9, 27, 6, 0, 0]  
Played 24 out of 150 games (16%): [7, 9, 27, 6, 0, 0]  
Played 25 out of 150 games (17%): [9, 9, 27, 6, 0, 0]  
Played 26 out of 150 games (17%): [10, 9, 27, 6, 0, 0]  
Played 27 out of 150 games (18%): [12, 9, 27, 6, 0, 0]  
Played 28 out of 150 games (19%): [12, 9, 27, 8, 0, 0]  
Played 29 out of 150 games (19%): [13, 9, 27, 8, 0, 0]  
Played 30 out of 150 games (20%): [13, 9, 27, 11, 0, 0]  
Played 31 out of 150 games (21%): [14, 9, 27, 11, 0, 0]  
Played 32 out of 150 games (21%): [14, 9, 27, 11, 1, 0]  
Played 33 out of 150 games (22%): [14, 9, 27, 11, 4, 0]  
Played 34 out of 150 games (23%): [14, 9, 27, 11, 6, 0]  
Played 35 out of 150 games (23%): [14, 9, 27, 11, 7, 0]  
Played 36 out of 150 games (24%): [14, 9, 27, 11, 8, 0]  
Played 37 out of 150 games (25%): [15, 9, 27, 11, 8, 0]  
Played 38 out of 150 games (25%): [17, 9, 27, 11, 8, 0]  
Played 39 out of 150 games (26%): [17, 9, 27, 11, 9, 0]  
Played 40 out of 150 games (27%): [17, 9, 27, 11, 10, 0]  
Played 41 out of 150 games (27%): [20, 9, 27, 11, 10, 0]  
Played 42 out of 150 games (28%): [20, 9, 27, 11, 10, 1]  
Played 43 out of 150 games (29%): [20, 9, 27, 11, 10, 4]  
Played 44 out of 150 games (29%): [21, 9, 27, 11, 10, 4]  
Played 45 out of 150 games (30%): [23, 9, 27, 11, 10, 4]  
Played 46 out of 150 games (31%): [25, 9, 27, 11, 10, 4]  
Played 47 out of 150 games (31%): [26, 9, 27, 11, 10, 4]  
Played 48 out of 150 games (32%): [26, 9, 27, 11, 10, 7]  
Played 49 out of 150 games (33%): [27, 9, 27, 11, 10, 7]  
Played 50 out of 150 games (33%): [27, 9, 27, 11, 10, 10]

Played 51 out of 150 games (34%): [27, 9, 29, 11, 10, 10]  
Played 52 out of 150 games (35%): [27, 9, 31, 11, 10, 10]  
Played 53 out of 150 games (35%): [27, 9, 32, 11, 10, 10]  
Played 54 out of 150 games (36%): [27, 9, 34, 11, 10, 10]  
Played 55 out of 150 games (37%): [27, 9, 35, 11, 10, 10]  
Played 56 out of 150 games (37%): [27, 9, 37, 11, 10, 10]  
Played 57 out of 150 games (38%): [27, 9, 38, 11, 10, 10]  
Played 58 out of 150 games (39%): [27, 9, 39, 11, 10, 10]  
Played 59 out of 150 games (39%): [27, 12, 39, 11, 10, 10]  
Played 60 out of 150 games (40%): [27, 12, 40, 11, 10, 10]  
Played 61 out of 150 games (41%): [27, 13, 40, 11, 10, 10]  
Played 62 out of 150 games (41%): [27, 13, 40, 13, 10, 10]  
Played 63 out of 150 games (42%): [27, 13, 40, 15, 10, 10]  
Played 64 out of 150 games (43%): [27, 13, 40, 16, 10, 10]  
Played 65 out of 150 games (43%): [27, 13, 40, 18, 10, 10]  
Played 66 out of 150 games (44%): [27, 13, 40, 19, 10, 10]  
Played 67 out of 150 games (45%): [27, 13, 40, 21, 10, 10]  
Played 68 out of 150 games (45%): [27, 16, 40, 21, 10, 10]  
Played 69 out of 150 games (46%): [27, 16, 40, 23, 10, 10]  
Played 70 out of 150 games (47%): [27, 17, 40, 23, 10, 10]  
Played 71 out of 150 games (47%): [27, 20, 40, 23, 10, 10]  
Played 72 out of 150 games (48%): [27, 20, 40, 23, 11, 10]  
Played 73 out of 150 games (49%): [27, 20, 40, 23, 13, 10]  
Played 74 out of 150 games (49%): [27, 20, 40, 23, 15, 10]  
Played 75 out of 150 games (50%): [27, 20, 40, 23, 16, 10]  
Played 76 out of 150 games (51%): [27, 20, 40, 23, 17, 10]  
Played 77 out of 150 games (51%): [27, 23, 40, 23, 17, 10]  
Played 78 out of 150 games (52%): [27, 23, 40, 23, 18, 10]  
Played 79 out of 150 games (53%): [27, 25, 40, 23, 18, 10]  
Played 80 out of 150 games (53%): [27, 25, 40, 23, 19, 10]  
Played 81 out of 150 games (54%): [27, 26, 40, 23, 19, 10]  
Played 82 out of 150 games (55%): [27, 29, 40, 23, 19, 10]  
Played 83 out of 150 games (55%): [27, 29, 40, 23, 19, 13]  
Played 84 out of 150 games (56%): [27, 32, 40, 23, 19, 13]  
Played 85 out of 150 games (57%): [27, 34, 40, 23, 19, 13]  
Played 86 out of 150 games (57%): [27, 34, 40, 23, 19, 14]  
Played 87 out of 150 games (58%): [27, 36, 40, 23, 19, 14]  
Played 88 out of 150 games (59%): [27, 36, 40, 23, 19, 15]  
Played 89 out of 150 games (59%): [27, 36, 40, 23, 19, 16]  
Played 90 out of 150 games (60%): [27, 38, 40, 23, 19, 16]  
Played 91 out of 150 games (61%): [27, 38, 42, 23, 19, 16]  
Played 92 out of 150 games (61%): [27, 38, 44, 23, 19, 16]  
Played 93 out of 150 games (62%): [27, 38, 45, 23, 19, 16]  
Played 94 out of 150 games (63%): [27, 38, 45, 24, 19, 16]  
Played 95 out of 150 games (63%): [27, 38, 47, 24, 19, 16]  
Played 96 out of 150 games (64%): [27, 38, 48, 24, 19, 16]  
Played 97 out of 150 games (65%): [27, 38, 49, 24, 19, 16]  
Played 98 out of 150 games (65%): [27, 38, 49, 25, 19, 16]  
Played 99 out of 150 games (66%): [27, 38, 51, 25, 19, 16]  
Played 100 out of 150 games (67%): [27, 38, 53, 25, 19, 16]  
Played 101 out of 150 games (67%): [27, 38, 56, 25, 19, 16]



Played 102 out of 150 games (68%): [27, 38, 56, 25, 20, 16]  
Played 103 out of 150 games (69%): [27, 38, 58, 25, 20, 16]  
Played 104 out of 150 games (69%): [27, 38, 60, 25, 20, 16]  
Played 105 out of 150 games (70%): [27, 38, 62, 25, 20, 16]  
Played 106 out of 150 games (71%): [27, 38, 64, 25, 20, 16]  
Played 107 out of 150 games (71%): [27, 38, 66, 25, 20, 16]  
Played 108 out of 150 games (72%): [27, 38, 66, 25, 21, 16]  
Played 109 out of 150 games (73%): [27, 38, 66, 25, 23, 16]  
Played 110 out of 150 games (73%): [27, 38, 69, 25, 23, 16]  
Played 111 out of 150 games (74%): [27, 38, 72, 25, 23, 16]  
Played 112 out of 150 games (75%): [27, 38, 74, 25, 23, 16]  
Played 113 out of 150 games (75%): [27, 38, 77, 25, 23, 16]  
Played 114 out of 150 games (76%): [27, 38, 79, 25, 23, 16]  
Played 115 out of 150 games (77%): [27, 38, 79, 25, 23, 18]  
Played 116 out of 150 games (77%): [27, 38, 81, 25, 23, 18]  
Played 117 out of 150 games (78%): [27, 38, 84, 25, 23, 18]  
Played 118 out of 150 games (79%): [27, 38, 85, 25, 23, 18]  
Played 119 out of 150 games (79%): [27, 38, 86, 25, 23, 18]  
Played 120 out of 150 games (80%): [27, 38, 88, 25, 23, 18]  
Played 121 out of 150 games (81%): [27, 38, 88, 28, 23, 18]  
Played 122 out of 150 games (81%): [27, 38, 88, 30, 23, 18]  
Played 123 out of 150 games (82%): [27, 38, 88, 30, 24, 18]  
Played 124 out of 150 games (83%): [27, 38, 88, 32, 24, 18]  
Played 125 out of 150 games (83%): [27, 38, 88, 34, 24, 18]  
Played 126 out of 150 games (84%): [27, 38, 88, 35, 24, 18]  
Played 127 out of 150 games (85%): [27, 38, 88, 37, 24, 18]  
Played 128 out of 150 games (85%): [27, 38, 88, 38, 24, 18]  
Played 129 out of 150 games (86%): [27, 38, 88, 38, 25, 18]  
Played 130 out of 150 games (87%): [27, 38, 88, 38, 26, 18]  
Played 131 out of 150 games (87%): [27, 38, 88, 39, 26, 18]  
Played 132 out of 150 games (88%): [27, 38, 88, 42, 26, 18]  
Played 133 out of 150 games (89%): [27, 38, 88, 44, 26, 18]  
Played 134 out of 150 games (89%): [27, 38, 88, 45, 26, 18]  
Played 135 out of 150 games (90%): [27, 38, 88, 46, 26, 18]  
Played 136 out of 150 games (91%): [27, 38, 88, 48, 26, 18]  
Played 137 out of 150 games (91%): [27, 38, 88, 48, 26, 20]  
Played 138 out of 150 games (92%): [27, 38, 88, 50, 26, 20]  
Played 139 out of 150 games (93%): [27, 38, 88, 51, 26, 20]  
Played 140 out of 150 games (93%): [27, 38, 88, 53, 26, 20]  
Played 141 out of 150 games (94%): [27, 38, 88, 53, 27, 20]  
Played 142 out of 150 games (95%): [27, 38, 88, 53, 27, 23]  
Played 143 out of 150 games (95%): [27, 38, 88, 53, 29, 23]  
Played 144 out of 150 games (96%): [27, 38, 88, 53, 29, 25]  
Played 145 out of 150 games (97%): [27, 38, 88, 53, 30, 25]  
Played 146 out of 150 games (97%): [27, 38, 88, 53, 30, 27]  
Played 147 out of 150 games (98%): [27, 38, 88, 53, 32, 27]  
Played 148 out of 150 games (99%): [27, 38, 88, 53, 35, 27]  
Played 149 out of 150 games (99%): [27, 38, 88, 53, 37, 27]  
Played 150 out of 150 games (100%): [27, 38, 88, 53, 40, 27]

Results:

bot <bots.rand.rand.Bot object at 0x7fee86cb3220>: 27 points

bot <bots.bully.bully.Bot object at 0x7fee86cb3310>: 38 points  
 bot <bots.rdeep.rdeep.Bot object at 0x7fee86cb3340>: 88 points  
 bot <bots.mybot.mybot.Bot object at 0x7fee86cb3250>: 53 points  
 bot <bots.cheapest.cheapest.Bot object at 0x7fee86cb32e0>: 40 points  
 bot <bots.expensive.expensive.Bot object at 0x7fee86d1d490>: 27 points

- Neutral vs Cheapest vs Expensive:

Bots	Games Won	Points
Neutral	27	54
Cheapest	17	22
Expensive	16	35

Playing 60 games:

Played 1 out of 60 games (2%): [0, 2, 0]  
 Played 2 out of 60 games (3%): [1, 2, 0]  
 Played 3 out of 60 games (5%): [3, 2, 0]  
 Played 4 out of 60 games (7%): [4, 2, 0]  
 Played 5 out of 60 games (8%): [6, 2, 0]  
 Played 6 out of 60 games (10%): [6, 4, 0]  
 Played 7 out of 60 games (12%): [8, 4, 0]  
 Played 8 out of 60 games (13%): [8, 5, 0]  
 Played 9 out of 60 games (15%): [9, 5, 0]  
 Played 10 out of 60 games (17%): [11, 5, 0]  
 Played 11 out of 60 games (18%): [11, 6, 0]  
 Played 12 out of 60 games (20%): [14, 6, 0]  
 Played 13 out of 60 games (22%): [14, 7, 0]  
 Played 14 out of 60 games (23%): [16, 7, 0]  
 Played 15 out of 60 games (25%): [18, 7, 0]  
 Played 16 out of 60 games (27%): [18, 8, 0]  
 Played 17 out of 60 games (28%): [20, 8, 0]  
 Played 18 out of 60 games (30%): [22, 8, 0]  
 Played 19 out of 60 games (32%): [22, 10, 0]  
 Played 20 out of 60 games (33%): [24, 10, 0]  
 Played 21 out of 60 games (35%): [25, 10, 0]  
 Played 22 out of 60 games (37%): [28, 10, 0]  
 Played 23 out of 60 games (38%): [28, 10, 3]  
 Played 24 out of 60 games (40%): [31, 10, 3]  
 Played 25 out of 60 games (42%): [31, 10, 6]  
 Played 26 out of 60 games (43%): [33, 10, 6]  
 Played 27 out of 60 games (45%): [33, 10, 7]  
 Played 28 out of 60 games (47%): [35, 10, 7]  
 Played 29 out of 60 games (48%): [35, 10, 9]  
 Played 30 out of 60 games (50%): [38, 10, 9]  
 Played 31 out of 60 games (52%): [40, 10, 9]  
 Played 32 out of 60 games (53%): [41, 10, 9]  
 Played 33 out of 60 games (55%): [41, 10, 12]  
 Played 34 out of 60 games (57%): [43, 10, 12]  
 Played 35 out of 60 games (58%): [44, 10, 12]

Played 36 out of 60 games (60%): [45, 10, 12]  
Played 37 out of 60 games (62%): [48, 10, 12]  
Played 38 out of 60 games (63%): [50, 10, 12]  
Played 39 out of 60 games (65%): [52, 10, 12]  
Played 40 out of 60 games (67%): [52, 10, 15]  
Played 41 out of 60 games (68%): [52, 11, 15]  
Played 42 out of 60 games (70%): [52, 12, 15]  
Played 43 out of 60 games (72%): [52, 12, 16]  
Played 44 out of 60 games (73%): [52, 12, 17]  
Played 45 out of 60 games (75%): [52, 13, 17]  
Played 46 out of 60 games (77%): [52, 14, 17]  
Played 47 out of 60 games (78%): [52, 14, 20]  
Played 48 out of 60 games (80%): [52, 16, 20]  
Played 49 out of 60 games (82%): [52, 16, 21]  
Played 50 out of 60 games (83%): [52, 16, 24]  
Played 51 out of 60 games (85%): [52, 17, 24]  
Played 52 out of 60 games (87%): [52, 17, 27]  
Played 53 out of 60 games (88%): [52, 17, 28]  
Played 54 out of 60 games (90%): [52, 17, 30]  
Played 55 out of 60 games (92%): [52, 19, 30]  
Played 56 out of 60 games (93%): [52, 20, 30]  
Played 57 out of 60 games (95%): [52, 20, 32]  
Played 58 out of 60 games (97%): [52, 21, 32]  
Played 59 out of 60 games (98%): [52, 22, 32]  
Played 60 out of 60 games (100%): [52, 22, 35]

Results:

bot <bots.mybot.mybot.Bot object at 0x7f9e66c8e220>: 52 points

bot <bots.cheapest.cheapest.Bot object at 0x7f9e66c8e310>: 22 points

bot <bots.expensive.expensive.Bot object at 0x7f9e683a5fd0>: 35 points