

JAVA Assignment



Java Assignment 4A: Array Assignment: RackO

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[See the YouTube Video](#)

RackO is a game where multiple players attempt to put cards in a plastic holder or rack in order.

Each player is dealt 10 cards randomly from the last slot(marked 50) to the first slot(marked 5).

Players can choose to pick up the top card of the discard pile or choose a card from the deck which is face down. They switch that card with one of the cards from their plastic holder in order to get closer to getting all the cards in non – descending order (If we get duplicate numbers in a row that is OK)

Players may NOT dig into the discard pile after the top card.

The goal of the game is to get the cards in order from the bottom to the top of the plastic holder.

In our case, since we are using a pseudo random number card generator we will have repeats so as long as the number "above" you is not less than you, we count this as in order.

BONUS

This is not an authentic deck....in the real game, the deck is limited to individual cards 1..60 or 1..40 so you can't have duplicates. Make an array of the numbers 1..60, scramble them up and deal them out.

Also, keep track of the discard pile and when there are no cards in the blind deal deck, move the discard pile back to the blind deal deck!!

BONUS2:

Create a non random AI player to play against. The AI must decide whether or not to use the discard card or choose the blind deal deck....also, must develop a strategy to win the game.

Here is a transcript of my RackO game running

HI, Welcome to Rack-0

I will deal each player 10 cards!!!

What's your name, partner?

Simon Cowell

** Player 1 **

 Simon Cowell

Pts Slot Card

--- ---- ----

50 0 30

45 1 39

40 2 52

35 3 44

30 4 41
25 5 51
20 6 9
15 7 38
10 8 37
5 9 23

The top of the discard pile is...9

Which do you want Simon Cowell discard pile(1) or deck(2)?

2

Using blind draw

New Card is 45

Which slot to replace, -1 to discard!

2

** Player 2 **

Kermit the Frog

Pts Slot Card

--- ----

50 0 23
45 1 27
40 2 10
35 3 9
30 4 17
25 5 39
20 6 45
15 7 56
10 8 39
5 9 55

The top of the discard pile is...52

Which do you want discard pile(1) or deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

0

** Player 1 **

Simon Cowell

Pts Slot Card

--- ----

50	0	30
45	1	39
40	2	45
35	3	44
30	4	41
25	5	51
20	6	9
15	7	38
10	8	37
5	9	23

The top of the discard pile is...23

Which do you want Simon Cowell discard pile(1) or deck(2)?

2

Using blind draw

New Card is 7

Which slot to replace, -1 to discard!

9

** Player 2 **

Kermit the Frog

Pts Slot Card

--- ----

50	0	52
45	1	27
40	2	10
35	3	9
30	4	17
25	5	39
20	6	45
15	7	56
10	8	39
5	9	55

The top of the discard pile is...23

Which do you want discard pile(1) or deck(2)?

5

Using blind draw

New Card is 22

Which slot to replace, -1 to discard!

6

** Player 1 **

Simon Cowell

Pts Slot Card

--- ----

50 0 30

45 1 39

40 2 45

35 3 44

30 4 41

25 5 51

20 6 9

15 7 38

10 8 37

5 9 7

The top of the discard pile is...45

Which do you want Simon Cowell discard pile(1) or deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

1

** Player 2 **

Kermit the Frog

Pts Slot Card

--- ----

50 0 52

45 1 27

40 2 10

35 3 9

30 4 17
25 5 39
20 6 22
15 7 56
10 8 39
5 9 55

The top of the discard pile is...39

Which do you want discard pile(1) or deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

4

** Player 1 **

Simon Cowell

Pts Slot Card

--- ----

50 0 30
45 1 45
40 2 45
35 3 44
30 4 41
25 5 51
20 6 9
15 7 38
10 8 37
5 9 7

The top of the discard pile is...17

Which do you want Simon Cowell discard pile(1) or
deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

8

**** Player 2 ****
Kermit the Frog

Pts Slot Card

--- ----

50	0	52
45	1	27
40	2	10
35	3	9
30	4	39
25	5	39
20	6	22
15	7	56
10	8	39
5	9	55

The top of the discard pile is...37

Which do you want discard pile(1) or deck(2)?

2

Using blind draw

New Card is 42

Which slot to replace, -1 to discard!

3

**** Player 1 ****
Simon Cowell

Pts Slot Card

--- ----

50	0	30
45	1	45
40	2	45
35	3	44
30	4	41
25	5	51
20	6	9
15	7	38
10	8	17
5	9	7

The top of the discard pile is...9

Which do you want Simon Cowell discard pile(1) or deck(2)?

2

Using blind draw

New Card is 14

Which slot to replace, -1 to discard!

8

** Player 2 **

Kermit the Frog

Pts Slot Card

--- ----

50 0 52

45 1 27

40 2 10

35 3 42

30 4 39

25 5 39

20 6 22

15 7 56

10 8 39

5 9 55

The top of the discard pile is...17

Which do you want discard pile(1) or deck(2)?

8

Using blind draw

New Card is 17

Which slot to replace, -1 to discard!

8

** Player 1 **

Simon Cowell

Pts Slot Card

--- ----

50 0 30

45 1 45

40 2 45

35 3 44
30 4 41
25 5 51
20 6 9
15 7 38
10 8 14
5 9 7

The top of the discard pile is...39

Which do you want Simon Cowell discard pile(1) or deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

5

** Player 2 **

Kermit the Frog

Pts Slot Card

--- ----

50 0 52
45 1 27
40 2 10
35 3 42
30 4 39
25 5 39
20 6 22
15 7 56
10 8 17
5 9 55

The top of the discard pile is...51

Which do you want discard pile(1) or deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

1

** Player 1 **

Simon Cowell

Pts Slot Card

--- ----

50	0	30
45	1	45
40	2	45
35	3	44
30	4	41
25	5	39
20	6	9
15	7	38
10	8	14
5	9	7

The top of the discard pile is...27

Which do you want Simon Cowell discard pile(1) or deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

5

** Player 2 **

Kermit the Frog

Pts Slot Card

--- ----

50	0	52
45	1	51
40	2	10
35	3	42
30	4	39
25	5	39
20	6	22
15	7	56
10	8	17
5	9	55

The top of the discard pile is...39

Which do you want discard pile(1) or deck(2)?

2

Using blind draw

New Card is 31

Which slot to replace, -1 to discard!

6

** Player 1 **

Simon Cowell

Pts Slot Card

--- ----

50 0 30

45 1 45

40 2 45

35 3 44

30 4 41

25 5 27

20 6 9

15 7 38

10 8 14

5 9 7

The top of the discard pile is...22

Which do you want Simon Cowell discard pile(1) or deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

7

** Player 2 **

Kermit the Frog

Pts Slot Card

--- ----

50 0 52

45 1 51

40 2 10

35 3 42

30 4 39

25 5 39
20 6 31
15 7 56
10 8 17
5 9 55

The top of the discard pile is...38
Which do you want discard pile(1) or deck(2)?
2

Using blind draw

New Card is 53

Which slot to replace, -1 to discard!

-1 (NOTE, PLAYER IS NOT USING THIS CARD IN THEIR RACK)

** Player 1 **

Simon Cowell

Pts Slot Card

--- ----

50 0 30
45 1 45
40 2 45
35 3 44
30 4 41
25 5 27
20 6 9
15 7 22
10 8 14
5 9 7

The top of the discard pile is...53
Which do you want Simon Cowell discard pile(1) or
deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

0

**** Player 2 ****
Kermit the Frog

Pts Slot Card

--- ---- ----

50	0	52
45	1	51
40	2	10
35	3	42
30	4	39
25	5	39
20	6	31
15	7	56
10	8	17
5	9	55

The top of the discard pile is...30

Which do you want discard pile(1) or deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

7

**** Player 1 ****

Simon Cowell

Pts Slot Card

--- ---- ----

50	0	53
45	1	45
40	2	45
35	3	44
30	4	41
25	5	27
20	6	9
15	7	22
10	8	14
5	9	7

The top of the discard pile is...56

Which do you want Simon Cowell discard pile(1) or deck(2)?

2

Using blind draw

New Card is 20

Which slot to replace, -1 to discard!

6

** Player 2 **

Kermit the Frog

Pts Slot Card

--- ----

50 0 52

45 1 51

40 2 10

35 3 42

30 4 39

25 5 39

20 6 31

15 7 30

10 8 17

5 9 55

The top of the discard pile is...9

Which do you want discard pile(1) or deck(2)?

1

Using discard

Which slot to replace, -1 to discard!

9

** Player 1 **

Simon Cowell

Pts Slot Card

--- ----

50 0 53

45 1 45

40 2 45

35 3 44

30 4 41
 25 5 27
 20 6 20
 15 7 22
 10 8 14
 5 9 7

The top of the discard pile is...55

Which do you want Simon Cowell discard pile(1) or deck(2)?

2

Using blind draw

New Card is 23

Which slot to replace, -1 to discard!

6

Player 1 is the Winner



Project Name	Assign 4a_RackO
Class Name	RackOSkeleton or whatever

Rubric	
Displays Boards	15
Randomizes Initial Setup	10
Allows player to swap either discard or blind draw from deck for one of their slots	25
Check for Win	20
Looks cool	15
Comments	10
Card from rack becomes discard	10
TOTAL	105
BONUS – Authentic 60 card deck	15

**BONUS – reasonable non
random AI**

20