

A fan of blue cards with numbers and a pile of blue chips.

Lottery Game

General Information

- cards
- bags including lottery balls

Each card consists of n values, where n is ranged from 7 to 10.

Initially

Example:

Kaan	130
Ali	100
Yeliz	120
Cem	140
Can	100
Pelin	110
Ece	140
Sibel	150
Ayşe	120
Berk	160
Ege	120
Ada	80

- 1- The number of elements in the high score table is unknown, but it must contain maximum 12 items.
- 2- If more than one player has the same score, the older one must be added first.

Each card (**Stack**) should be randomly filled with distinct n values. Thus, the elements in one stack must be different from each other and must be sorted.

S1	A	3	7	8	10	J	K
S2	2	3	5	6	8	9	Q

The program should continuously select a ball from the *bag1*. The selected value should be deleted from the *bag1* and inserted into the *bag2*.

Step 1

Step 4

Q3 (bag1)	2	4	5	6	7	9	10	J	Q			
Q4 (bag2)	3	K	8	A								

Each player deletes the selected value from his/her stack if it exists and gets 10 score points.
If the card of the player does not contain the selected value the player losses 5 points.

The first player that deletes 4 elements from his/her stack completes the first tournament and gets the award score 30. (“birinci çinko”)
When a player deletes all elements from his/her stack, he/she gets the award score 50.
If both players delete their last elements at the same time, they share the score.

The program must display all steps until the game is over. In other words, the program must continuously print the S1, S2, Q3, Q4, and the scores on the screen.

End of the Game

The game is over when a card becomes empty.
The winner will be the player that has higher score.
If two players have the same score, the game is over without any winner (tie).

High Score Table

If the player earns a score within the top results, he/she will be displayed in the High-Score table.
Add into the queue Q1 and Q2. If the same score exists in the table, the new score should be inserted to the next of them. Delete the last record if it is required since the table must contain maximum 12 items.
The new score table should be written to the same file (“D:\\HighScoreTable.txt”).

Play again?

At the end of the game, ask to the user if he/she wants to play again.

This homework will be graded by Assist.Prof.Dr. Özge KART.
You can ask your questions her from the “**FORUM → Homework 1 - Questions**” part of the *DEUZEM SAKAI* software.

Sample output:

```
Please enter n
7

Player1: A 3 7 8 10 J K      Score: 0      Bag1  A 2 3 4 5 6 7 8 9 10 J Q K
Player2: 2 3 5 6 8 9 Q      Score: 0      Bag2

1. selected value: 3
Player1: A 7 8 10 J K      Score: 10     Bag1  A 2 4 5 6 7 8 9 10 J Q K
Player2: 2 5 6 8 9 Q      Score: 10     Bag2  3

2. selected value: K
Player1: A 7 8 10 J      Score: 20     Bag1  A 2 4 5 6 7 8 9 10 J Q
Player2: 2 5 6 8 9 Q      Score: 5      Bag2  3 K

3. selected value: 8
Player1: A 7 10 J      Score: 30     Bag1  A 2 4 5 6 7 9 10 J Q
Player2: 2 5 6 9 Q      Score: 15     Bag2  3 K 8

4. selected value: A
Player1: 7 10 J      Score: 40     Bag1  2 4 5 6 7 9 10 J Q
Player2: 2 5 6 9 Q      Score: 10     Bag2  3 K 8 A

First tournament is completed
Player1: 7 10 J      Score: 70     Bag1  2 4 5 6 7 9 10 J Q
Player2: 2 5 6 9 Q      Score: 10     Bag2  3 K 8 A

5. selected value: 10
Player1: 7 J      Score: 80     Bag1  2 4 5 6 7 9 J Q
Player2: 2 5 6 9 Q      Score: 5      Bag2  3 K 8 A 10

6. selected value: 6
Player1: 7 J      Score: 75     Bag1  2 4 5 7 9 J Q
Player2: 2 5 9 Q      Score: 15     Bag2  3 K 8 A 10 6

7. selected value: J
Player1: 7      Score: 85     Bag1  2 4 5 7 9 Q
Player2: 2 5 9 Q      Score: 10     Bag2  3 K 8 A 10 6 J

8. selected value: 7
Player1:      Score: 95     Bag1  2 4 5 9 Q
Player2: 2 5 9 Q      Score: 5      Bag2  3 K 8 A 10 6 J 7
```

Game over!

Winner: Player1 with 145 points

What is your name: Derya

High Score Table

Berk 160

Sibel 150

Derya 145

Cem 140

Ece 140

Kaan 130

...

Play again?

N

Notes

1- In your program, you can use the [stack](#) and [queue](#) data structures as you want, but you must use only [stack](#) and [queue](#).

Don't use other data structures such as an [array](#) or [arraylist](#) or [list](#).

Don't use **STRING** data type in the main solution, instead of a stack or queue.

2- The stack class has only the following methods: push, pop, peek, isFull, isEmpty, and size.

Don't add a new method into the stack class.

For example, don't write a *display* method in the Stack class.

For example, don't write a *search* method in the Stack class.

All other methods must be written in the **main** program.

3- The queue class has only the following methods: enqueue, dequeue, peek, isFull, isEmpty, and size.

Don't add a new method into the Queue class.

For example, don't write a *display* method in the Queue class.

For example, don't write a *search* method in the Queue class.

All other methods must be written in the **main** program.

4- You can use **linear queue** or **circular queue**.

5- Don't use stack and queue classes embedded in Java. Write your own Stack and Queue classes.

6- Upload format

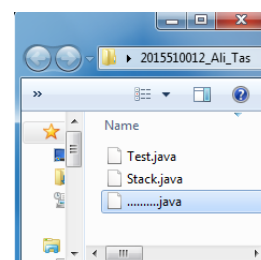
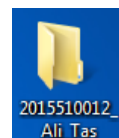
Step1: Create a new folder, named by your student number and name (without any space)

For example: 2015510012_Ali_Tas

Step2: Copy all java files into this folder

Step3: Compress the folder **2015510012_Ali_Tas.zip**

Step4: Upload the file **2015510012_Ali_Tas.zip** from **DEUZEM SAKAI**



7- Don't use **ENIGMA** or any other extra library.

8- If you are late, your grade will be decreased by 10 points for each day. After five days, your assignment will not be accepted.

9- Assignment must be your individual work.

Cheating is strictly prohibited.

All source codes will be automatically compared with each other by using a program.

If any cheating occurs, your assignment will be graded with **zero (0)**.

10- Your program must work correctly under all conditions. Try to control all possible errors.

11- You should use meaningful variable names, appropriate comments, and good prompting messages.