

```

import java.util.*;

public class OkeyGame {

    // This function checks whether the given 14 stones are in the "ends" position    public static
    boolean isComplete(List<Integer> board) {

        if (board.size() != 14) {

            return false; // If the number of stones is not 14, the game is not over

        }

        // 7 pair control: 7 pairs of stones with the same number

        if (checkPairs(board)) {

            return true; // If there are 7 pairs, it is considered finished

        }

        // Block control: The same number of stones or consecutive stones

        return checkBlocks(board);

    }

    // Double control (7 double control)

    private static boolean checkPairs(List<Integer> board) {

        Map<Integer, Integer> countMap = new HashMap<>();

        // Calculate the frequency of stones

        for (int card : board) {

            countMap.put(card, countMap.getOrDefault(card, 0) + 1);

        }
    }
}

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// we need to find 7 pairs

int pairs = 0;

for (int count : countMap.values()) {

    if (count == 2) {

        pairs++;

    }

}

return pairs >= 7; // If there are 7 or more pairs, the game is considered completed
}

// Block control: Stones with the same number or consecutive stones
private static boolean checkBlocks(List<Integer> board) {

    Collections.sort(board); // We sort the stones

    // Check blocks: Same numbers or consecutive numbers
    for (int i = 0; i < board.size() - 1; i++) {

        // Aynı sayıya sahip taşlar (setler)
        if (board.get(i) == board.get(i + 1)) {

            continue; // Aynı sayı, set oluşturur

        }

        // Consecutive numbers
        if (board.get(i) + 1 == board.get(i + 1)) {

            continue; // Consecutive numbers form blocks

        }

        // If it is not consecutive or not the same number, it is not a valid block        return false;

    }

}

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        return true; // Eğer bloklar geçerli ise
    }

// Test function
public static void main(String[] args) {
    // Test 1: 7 pairs and some consecutive stones
    List<Integer> board1 = Arrays.asList(1, 1, 2, 2, 3, 3, 4, 4, 5, 6, 6, 7, 8, 9);
    System.out.println("Board 1 is complete: " + isComplete(board1)); // true

    // Test 2: 7 pairs and the same numbers
    List<Integer> board2 = Arrays.asList(1, 1, 2, 2, 3, 3, 4, 4, 5, 5, 6, 6, 7, 7);
    System.out.println("Board 2 is complete: " + isComplete(board2)); // true

    // Test 3: Consecutive stones and sets    List<Integer> board3 = Arrays.asList(10, 11, 12, 13, 14,
    15, 6, 6, 6, 7, 7, 8, 8, 8);
    System.out.println("Board 3 is complete: " + isComplete(board3)); // true

    // Test 4: Eksik çiftler, geçerli blok yok
    List<Integer> board4 = Arrays.asList(1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 10, 10, 11);
    System.out.println("Board 4 is complete: " + isComplete(board4)); // false
}
}

```

## Açıklamalar:

- **isCompleteFonksiyonu** : This function takes a player's pieces and after checking that the pieces are 14 pieces, it checks whether there are 7 pairs. if there are 7 pairs oyun it

is considered finished. if there are no 7 pairs, the blocks (consecutive stones or stones with the same number) are checked.

- **checkPairsFonksiyonu** : This function is 7 pairs between the stones and Decays.
- **checkBlocksFonksiyonu** : This function sorts the stones and creates consecutive stones or aytru

#### 1. \* Test Scenarios

2. **Board 1** : There will be 7 pairs and batru Decouple between the stones, because the stones are of biting length
3. **Board 2** : there are 7 pairs of stones, and therefore the root of the root.
4. **Board 3** : Successive Stones vtruechrook.
5. **Board 4** : There are not enough pairs here, and the current BFAL is the root.

### Test Çıktısı:

Board 1 is complete: true

Board 2 is complete: true

Board 3 is complete: true

Board 4 is complete: false

Of course, I have written a function below that determines whether the pieces in the Okey game are in the "end position" or not. This function will check a valid block structure or 7 pairs by checking the stones.

#### 1. Steps:

2. **Ends position:** In order for a player to be considered complete, he must either have 7 pairs (7 stones with the same number), or the stones must form certain blocks (consecutive stones or stones with the same number).

3. **Test scenarios:** We will do tests with some sample inputs to make sure that the code works.

#### 4. Kod:

```
import java.util.*;

public class OkeyGame {

    // Bu fonksiyon, verilen 14 taşın "biter" pozisyonunda olup olmadığını kontrol eder
    public static boolean isComplete(List<Integer> board) {
```

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        if (board.size() != 14) {
            return false; // Eğer taş sayısı 14 değilse, oyun bitmemiştir
        }

        // 7 çift kontrolü: Aynı sayıya sahip taşlardan 7 çift
        if (checkPairs(board)) {
            return true; // Eğer 7 çift varsa, bitmiş sayılır
        }

        // Blok kontrolü: Aynı sayıda taşlar veya ardışık taşlar
        return checkBlocks(board);
    }

    // Çift kontrolü (7 çift kontrolü)
    private static boolean checkPairs(List<Integer> board) {
        Map<Integer, Integer> countMap = new HashMap<>();

        // Taşların sıklığını hesapla
        for (int card : board) {
            countMap.put(card, countMap.getOrDefault(card, 0) + 1);
        }

        // 7 çift bulmalıyız
        int pairs = 0;
        for (int count : countMap.values()) {
            if (count == 2) {
                pairs++;
            }
        }

        return pairs >= 7; // Eğer 7 veya daha fazla çift varsa, oyun
        tamamlanmış kabul edilir
    }

    // Blok kontrolü: Aynı sayıya sahip taşlar veya ardışık taşlar
    private static boolean checkBlocks(List<Integer> board) {
        Collections.sort(board); // Taşları sıralıyoruz

        // Blokları kontrol et: Aynı sayılar veya ardışık sayılar
        for (int i = 0; i < board.size() - 1; i++) {
            // Aynı sayıya sahip taşlar (setler)
            if (board.get(i) == board.get(i + 1)) {
                continue; // Aynı sayı, set oluşturur
            }
            // Ardışık sayılar
            if (board.get(i) + 1 == board.get(i + 1)) {
                continue; // Ardışık sayılar, blok oluşturur
            }
            // Eğer ardışık değilse veya aynı sayı değilse, geçerli bir
            blok değil
            return false;
        }
        return true; // Eğer bloklar geçerli ise
    }

    // Test fonksiyonu
    public static void main(String[] args) {
        // Test 1: 7 çift ve bazı ardışık taşlar
        List<Integer> board1 = Arrays.asList(1, 1, 2, 2, 3, 3, 4, 4, 5, 6,
        6, 7, 8, 9);
    }

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        System.out.println("Board 1 is complete: " + isComplete(board1));
// true

        // Test 2: 7 çift ve aynı sayılar
        List<Integer> board2 = Arrays.asList(1, 1, 2, 2, 3, 3, 4, 4, 5, 5,
6, 6, 7, 7);
        System.out.println("Board 2 is complete: " + isComplete(board2));
// true

        // Test 3: Ardışık taşlar ve setler
        List<Integer> board3 = Arrays.asList(10, 11, 12, 13, 14, 15, 6, 6,
6, 7, 7, 8, 8, 8);
        System.out.println("Board 3 is complete: " + isComplete(board3));
// true

        // Test 4: Eksik çiftler, geçerli blok yok
        List<Integer> board4 = Arrays.asList(1, 1, 2, 3, 4, 5, 6, 7, 8, 9,
10, 10, 10, 11);
        System.out.println("Board 4 is complete: " + isComplete(board4));
// false
    }
}

```

## Açıklamalar:

- **\* isComplete Function:** This function takes a player's pieces and checks if there are 7 pairs, after checking that the pieces are 14 pieces. If there are 7 pairs, the game is considered finished. If there are no 7 pairs, the blocks (consecutive stones or stones with the same number) are checked.
- **\* checkPairs Function:** This function checks whether there are 7 pairs between the stones. Dec. \* checkPairs Function: This function checks whether there are 7 pairs between the stones. If there are 7 or more pairs, the function returns true. checkBlocks

**\* Function: This function sorts the stones and checks consecutive stones or stones with the same number. If there is a valid block (consecutive stones or stones with the same number), the function returns true.**

### 1. Test Scenarios:

2. **Board 1:** There are 7 pairs of stones and some consecutive stones between the stones. Dec. In this case, the function will return true, because the stones are in the end position.
3. **Board 2:** there are 7 pairs of stones, and that's why the game is almost over. The function will return true.
4. **Board 3:** There are consecutive stones and some sets. This is also a valid completed game position. The function will return true.
5. **Board 4:** There are not enough pairs here, and there are also no valid blocks. Therefore, the game is incomplete and the function will return false.

### 6. Çıktı:

```

Board 1 is complete: true
Board 2 is complete: true
Board 3 is complete: true
Board 4 is complete: false

```

This code provides a simple control function to check whether the pieces in the Okey game have been completed.