Java ArrayList Cheatsheet

Creating an ArrayList

import java.util.ArrayList;

ArrayList<Type> list = new ArrayList<>();

Example:

ArrayList<String> names = new ArrayList<>();

Core Methods

add(E e): Add element to end of list

add(int index, E element): Add element at specific index

get(int index): Get element at index

set(int index, E element): Replace element at index

remove(int index): Remove element at index

remove(Object o): Remove first occurrence of object

clear(): Remove all elements

size(): Get number of elements

isEmpty(): Check if list is empty

contains(Object o): Check if element exists

indexOf(Object o): Get index of first occurrence

lastIndexOf(Object o): Get index of last occurrence

toArray(): Convert to array

equals(Object o): Compare lists

subList(from, to): Get sublist (from inclusive, to exclusive)

Advanced Methods

clone(): Create a shallow copy of the list

ensureCapacity(int minCapacity): Ensure minimum capacity of list

trimToSize(): Trim list to current size

addAll(Collection<? extends E> c): Add all from another collection

addAll(int index, Collection<? extends E> c): Add all at specific index

containsAll(Collection<?> c): Check if all elements exist

removeAll(Collection<?> c): Remove all elements in given collection

retainAll(Collection<?> c): Keep only elements in given collection

iterator(): Return an iterator

listIterator(): Return a list iterator

Example Code

```java
import java.util.ArrayList;

public class Main {
    public static void main(String[] args) {
        ArrayList<String> list = new ArrayList<>();
        list.add("Kshama");
        list.add("Mishra");
        list.add("AI");
        System.out.println(list.get(0));    // Kshama
        list.set(2, "CS-AI");
        list.remove("Mishra");
        System.out.println(list.contains("AI"));   // false
        System.out.println(list.size());         // 2
        list.clear();
        System.out.println(list.isEmpty());        // true
    }
}
```