Create a Java class that implements basic operations on a dynamic array. The class should be able to handle typical array operations such as insertion, deletion, updating, and retrieval of elements.

```
public class DynamicArray {
    private int[] array;
    private int size;
    private int capacity;

    public DynamicArray() {
        capacity = 10;
        array = new int[capacity];
        size = 0;
    }

    public int size() {
        return size;
    }
    public boolean isEmpty() {
        return size == 0;
    }
    public int get(int index) {
        if (index < 0 || index >= size) {
            throw new IndexOutOfBoundsException("Index out of bounds");
        }
```

```
    return array[index];
}

public void set(int index, int value) {
    if (index < 0 || index >= size) {
        throw new IndexOutOfBoundsException("Index out of bounds");
    }
    array[index] = value;
}
public void add(int value) {
    if (size == capacity) {
        resizeArray();
    }
    array[size] = value;
    size++;
}

public void insert(int index, int value) {
    if (index < 0 || index > size) {
        throw new IndexOutOfBoundsException("Index out of bounds");
    }
    if (size == capacity) {
        resizeArray();
    }
    for (int i = size; i > index; i--) {
        array[i] = array[i - 1];
```

```
    }
    array[index] = value;
    size++;
}

public void remove(int index) {
    if (index < 0 || index >= size) {
        throw new IndexOutOfBoundsException("Index out of bounds");
    }
    // Shift elements to the left to remove the element
    for (int i = index; i < size - 1; i++) {
        array[i] = array[i + 1];
    }
    size--;
}
private void resizeArray() {
    capacity *= 2; // Double the capacity
    int[] newArray = new int[capacity];
    // Copy elements to the new array
    System.arraycopy(array, 0, newArray, 0, size);
    array = newArray;
}
public void printArray() {
    if (size == 0) {
        System.out.println("[]");
        return;
```

```
        }
        System.out.print("[");
        for (int i = 0; i < size - 1; i++) {
            System.out.print(array[i] + ", ");
        }
        System.out.println(array[size - 1] + "]");
    }

    public static void main(String[] args) {
        DynamicArray dynArray = new DynamicArray();

        dynArray.add(10);
        dynArray.add(20);
        dynArray.add(30);
        dynArray.printArray(); // [10, 20, 30]

        dynArray.insert(1, 15);
        dynArray.printArray(); // [10, 15, 20, 30]

        dynArray.remove(2);
        dynArray.printArray(); // [10, 15, 30]

        System.out.println("Element at index 1: " + dynArray.get(1)); // Element at
index 1: 15

        dynArray.set(2, 35);
        dynArray.printArray(); // [10, 15, 35]
```

```
    }
}
```