

```
import java.util.NoSuchElementException;
```

```
class Vector2D {
```

```
    private int[] v;  
    private int row;  
    private int col;
```

```
    public Vector2D(int[] v) {  
        this.v = v;  
        row = 0;  
        col = 0;  
    }
```

```
    public int next() {  
        skipEmptyRows();  
        if (!hasNext()) {  
            throw new NoSuchElementException();  
        }  
        int next = v[row][col++];  
        // Increment row if col reaches the end of the current row  
        if (col == v[row].length) {  
            row++;  
            col = 0;  
        }  
        return next;  
    }
```

```
    public boolean hasNext() {  
        skipEmptyRows();  
        return row < v.length - 1 || (row == v.length - 1 && col < v[row].length);  
    }
```

```
    private void skipEmptyRows() {  
        // Skip empty rows  
        while (row < v.length && v[row].length == 0) {  
            row++;  
        }  
    }  
}
```

```
/**
```

```
 * Your Vector2D object will be instantiated and called as such:
```

```
 * Vector2D obj = new Vector2D(v);
```

```
 * int param_1 = obj.next();
```

```
 * boolean param_2 = obj.hasNext();
```

```
 */
```