

Objektovo orientované programovanie

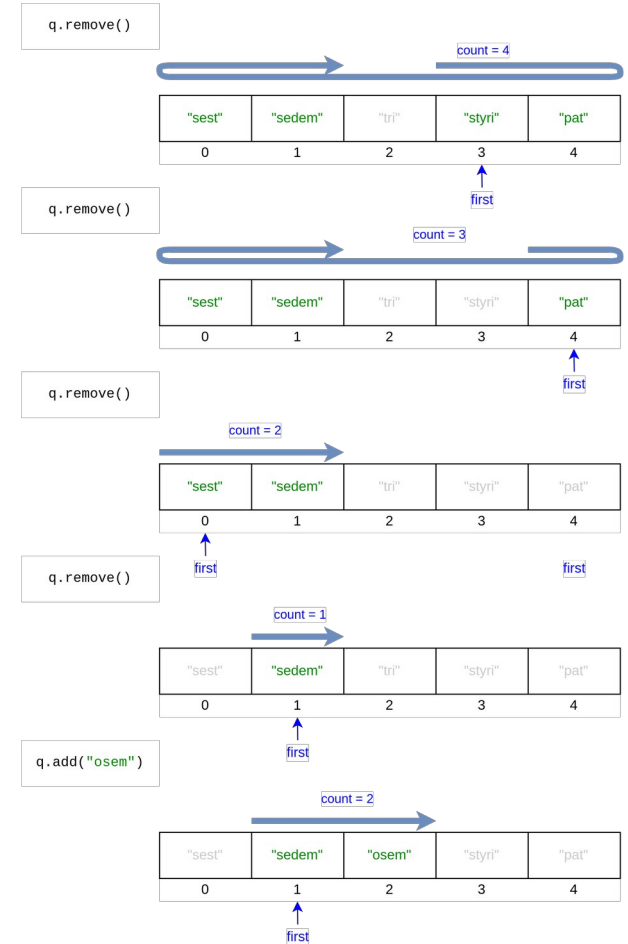
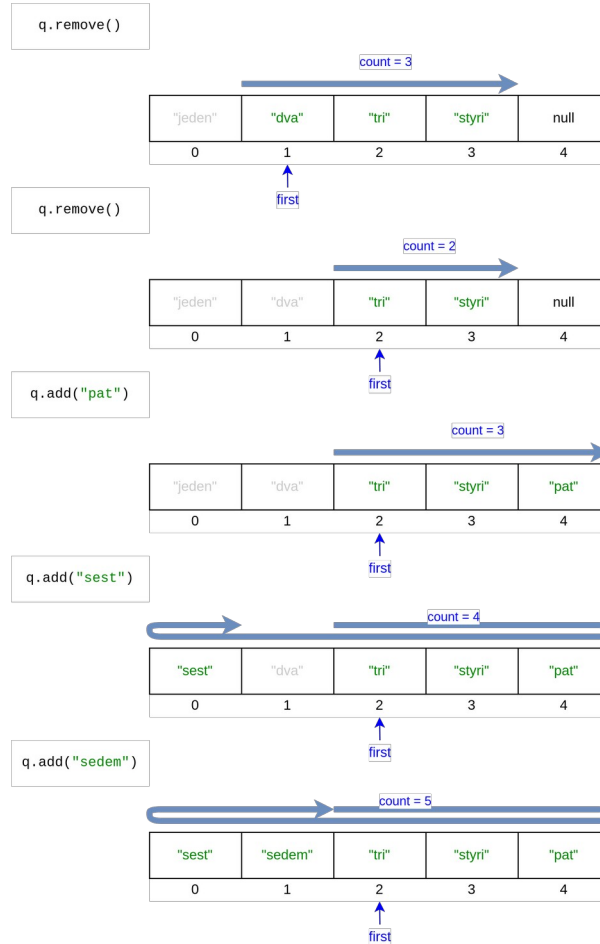
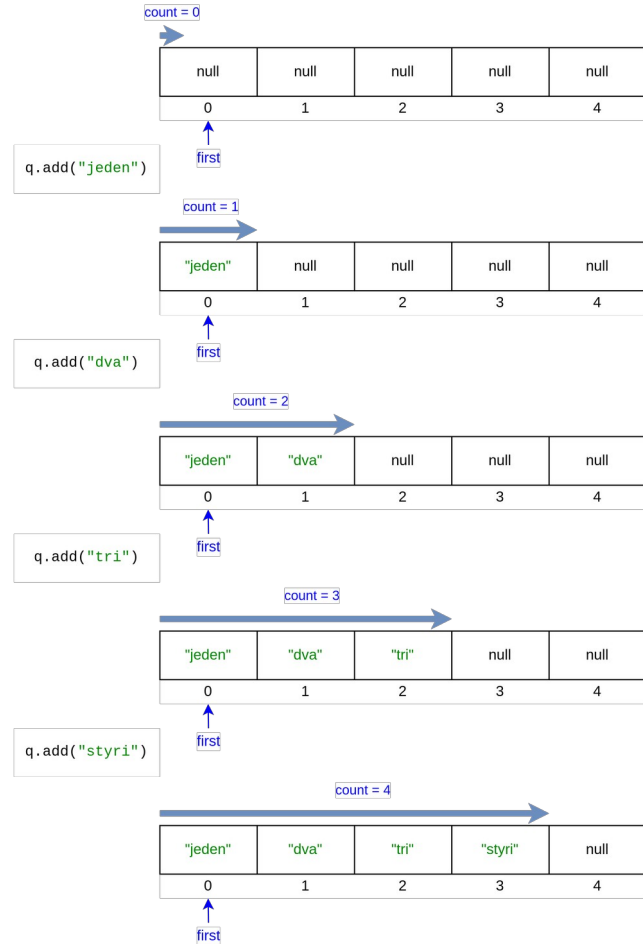
8. cvičenie

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Vnorené triedy

- listener (observer) ako inštancia vnorenej triedy
- reakcia na stlačenie tlačidla

Generické typy - Queue



Generické typy - extends

trieda alebo rozhranie

```
class Person {  
    private String name;  
  
    public Person(String name) {  
        this.name = name;  
    }  
  
    public String getName() {  
        return name;  
    }  
}
```

```
class Employee extends Person {  
    private int salary;  
  
    public Employee(String name, int salary) {  
        super(name);  
        this.salary = salary;  
    }  
  
    public int getSalary() {  
        return salary;  
    }  
}
```

```
class Box<TYPE> extends Person {  
    private TYPE person;  
  
    public void set(TYPE value) {  
        person = value;  
    }  
  
    public TYPE get() {  
        return person;  
    }  
  
    public String getName() {  
        return person.getName();  
    }  
}
```

```
public static void main(String[] args) {  
    Box<Employee> b = new Box<Employee>();  
    b.set(new Employee("Laco", 2000));  
    Employee e = b.get();  
    String n = b.getName();  
}
```

Genericke typy

```
public interface Map<KEY, VALUE> {  
  
    int size();  
    boolean isEmpty();  
    boolean containsKey(Object key);  
    .  
    .  
    .  
    .  
    .  
  
}
```

Object

<https://docs.oracle.com/en/java/javase/21/docs/api/java.base/java/lang/Object.html>

| | | | |
|--------------------------------|-----------------------------|--|---|
| <code>protected</code> | <code>Object</code> | <code>clone()</code> | Creates and returns a copy of this object. |
| <code>public</code> | <code>boolean</code> | <code>equals(Object obj)</code> | Indicates whether some other object is "equal to" this one. |
| <code>public</code> | <code>int</code> | <code>hashCode()</code> | Returns a hash code value for the object. |
| <code>public final</code> | <code>Class<?></code> | <code>getClass()</code> | Returns the runtime class of this Object. |
| <code>public</code> | <code>String</code> | <code>toString()</code> | Returns a string representation of the object. |
| <code>public final void</code> | | <code>notify()</code> | Wakes up a single thread that is waiting on this object's monitor. |
| <code>public final void</code> | | <code>notifyAll()</code> | Wakes up all threads that are waiting on this object's monitor. |
| <code>public final void</code> | | <code>wait()</code> | Causes the current thread to wait until it is awakened, typically by being notified or interrupted. |
| <code>public final void</code> | | <code>wait(long timeoutMillis)</code> | Causes the current thread to wait until it is awakened, typically by being notified or interrupted, or until a certain amount of real time has elapsed. |
| <code>public final void</code> | | <code>wait(long timeoutMillis, int nanos)</code> | Causes the current thread to wait until it is awakened, typically by being notified or interrupted, or until a certain amount of real time has elapsed. |
| <code>protected</code> | <code>void</code> | <code>finalize()</code> | Deprecated, for removal: This API element is subject to removal in a future version. Finalization is deprecated and subject to removal in a future release. |

Metódy equals() a hashCode()

- ak definujeme, tak definovať oboje, aby boli konzistentné
- ak equals() vráti true, tak hashCode() oboch objektov musí byť rovnaké
- ak equals() vráti false, tak hashCode() oboch objektov môže ale nemusí byť rôzne

Comparable

```
public interface Comparable<T> {  
    public int compareTo(T o);  
}
```

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Comparator

```
public interface Comparator<T> {  
    int compare(T o1, T o2);  
    .  
    .  
    .  
    .  
    .  
}
```

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