Chapter 6: Stack Usage

**isEmpty(): Boolean**

**push(ItemType newEntry) : boolean**

**pop(): Boolean**

**peek(): ItemType**

1. Simple uses of a **Stack**:

-Checking for Balanced Braces

{a{b}c} 1.push {

Push {

Pop

Pop

Stack empty-🡪balanced

{a{bc} 1. Push {

Push {

Pop

Stack not empty-🡪not balanced

* Recognizing Strings in a Language

ab$ab

ab$ba

Selection sort

Divide the list into two parts: sorted part and unsorted part, they are from left to right.

 Compare all unsorted numbers in order to select the smallest one

    Swap this number with the first number in the unsorted section and put to sorted part.

Repeat these steps until the list is sorted

Best case: О(*n*2)

Average case: О(*n*2)

Worst case: О(*n*2)

Bubble sort:

The bubble sort works by iterating down an array to be sorted from the first element to the last, comparing each adjacent (neighbor) pair of elements and switching their positions if necessary. This process is repeated as many times as necessary, until the array is sorted.

**Best case:** O(n)

Average case: О(*n*2)

The **worst case**: array is reverse order : О(*n*2)