

Structure de données génériques en Java

TP 6

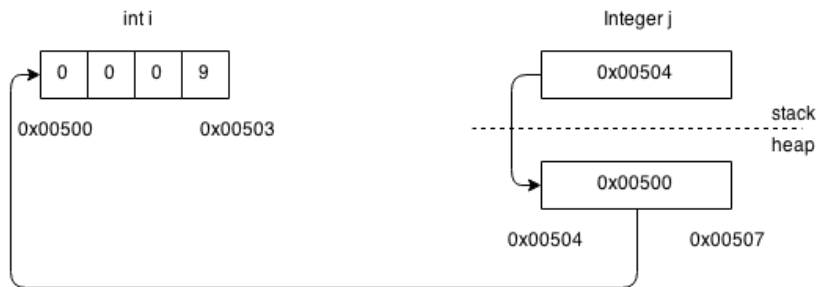
Programmation objets, web et mobiles en JAVA
Licence 3 Professionnelle – Multimédia

WALTHER Laureen

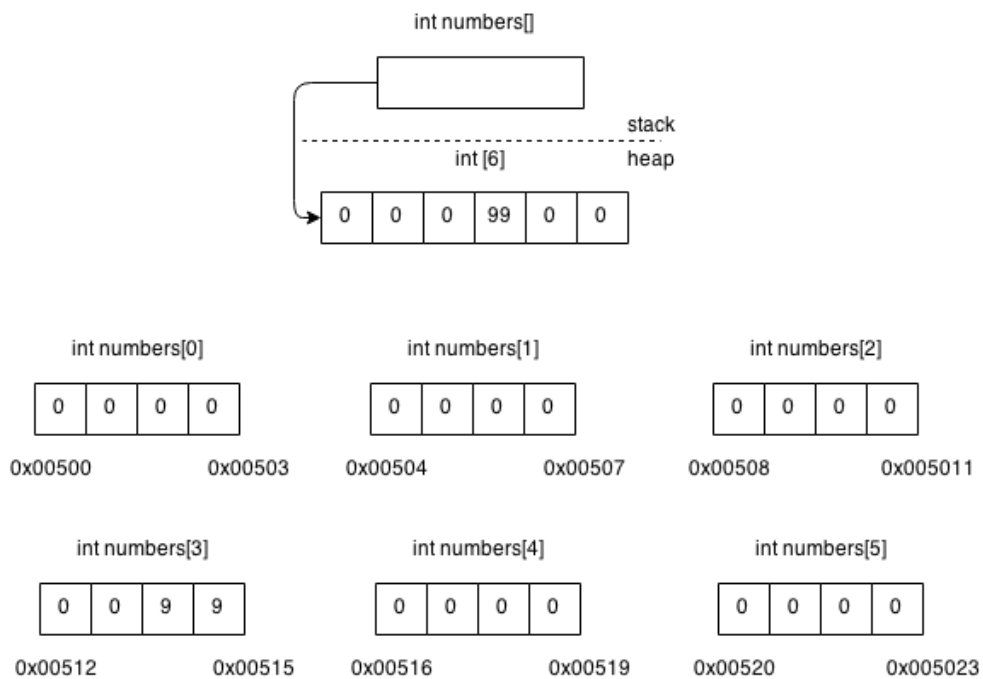
Université Pierre et Marie Curie

1) Dessine-moi la mémoire

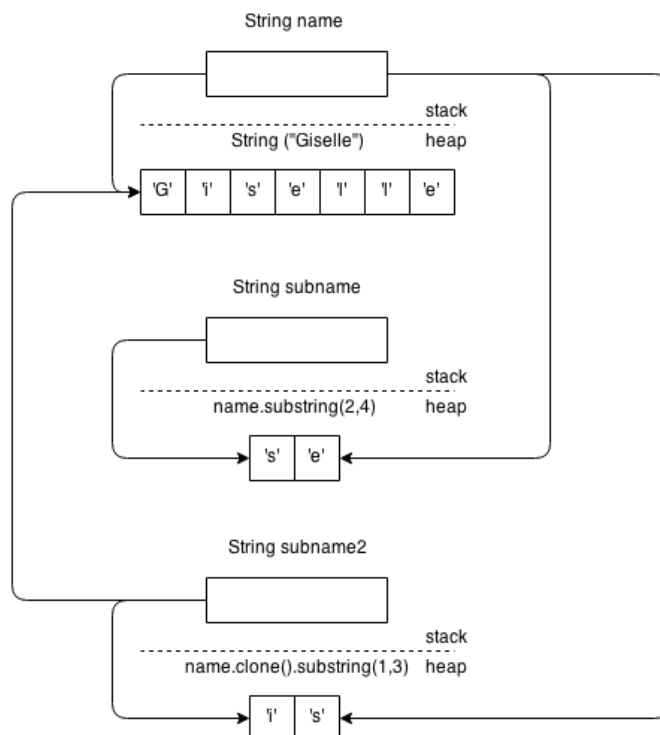
Exercice 1 :



Exercice 2 :

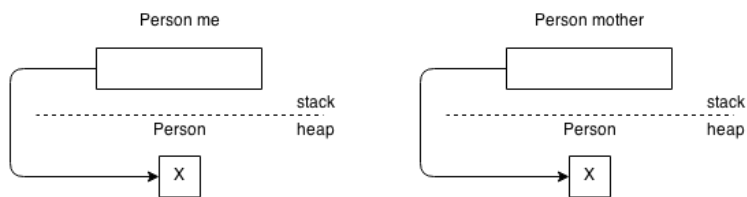


Exercice 3:

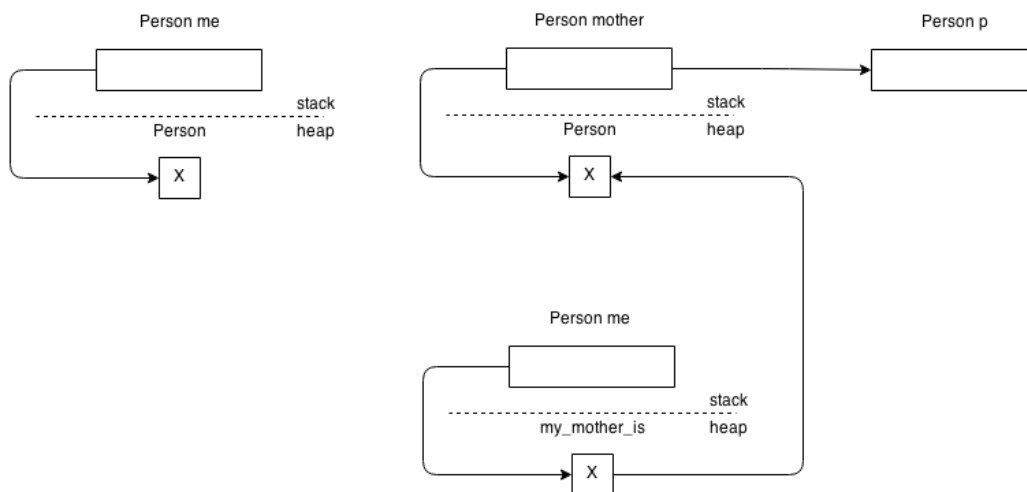


Exercise 4:

Point a

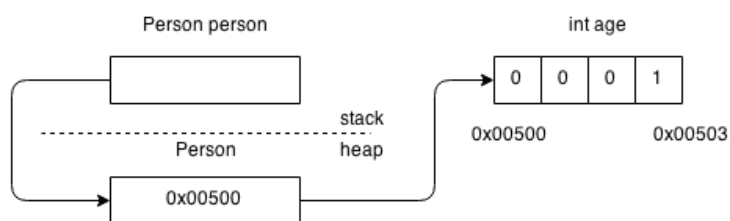


Point b

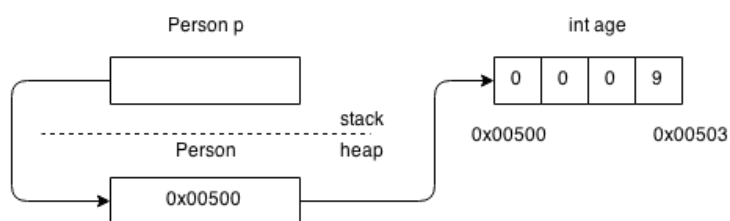


Exercise 5:

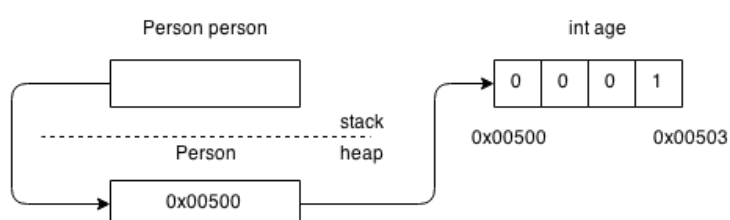
Point a



Point b



Point c



2) Tableau

ArrayList (): Builds an empty array list.

size (): This method returns the number of elements in this list.

add (T e): e -- The element to be inserted.

This method does not return any value.

get (int i): i -- The index of the element to return.

This method returns the element at the specified position in this list .

indexOf (Object o): o -- The element to search for.

This method returns the index of the first occurrence of the specified element in this list, or -1 if this list does not contain the element.

remove (int index): index -- The index of the element to be removed .

This method returns the element that was removed from the list .

remove (Object o): o -- The element to be removed from this list, if present.

This method returns true if this list contained the specified element, else the list is unchanged.

3) Liste chaînée

LinkedList (): This constructs constructs an empty list.

size (): This method returns the number of elements in this list.

addFirst (T e): e -- the element to add

This method does not return any value.

addLast (T e): e -- the element to add

This method does not return any value.

get (int i): i -- index of the element to return

This method returns the element at the specified position in this list

pop (): This method returns the element at the front of this list

poll (): This method returns the head of this list, or null if this list is empty

peekFirst (): This method returns the first element of this list, or null if this list is empty

peekLast (): This method returns the last element of this list, or null if this list is empty

remove (Object o): o -- element to be removed from this list, if present

This method returns true if this list contained the specified element

remove (int index): index -- the index of the element to be removed

This method returns the element previously at the specified position

4) Iterator

```
public Iterator<T> iterator() {
    Iterator<T> it = new Iterator<T>() {
        private int currentIndex = 0;
        @Override
        public boolean hasNext() {
            return currentIndex < size && data[currentIndex] != null;
        }
        @Override
        public T next() {
            return data[currentIndex++];
        }
        @Override
        public void remove() {
            if (currentIndex - 1 < size) {
                System.arraycopy(data, currentIndex, data, currentIndex-
1, size-currentIndex--);
            }
            size--;
        }
    };
    return it;
}
```