Week 13-2 : Array, Containers

Part3. Array

Array is a composed of index and data.

Saving a same kinds of data sequentially.

	1 dimension	2 dimension
Declaration	int intArray[] int[] intArray	int intArray[][];
Generation	intArray = new int[10];	intArray = new int[2][2];
Declaration and initialization	int intArray[] = {0,1,2,3,4};	int intArray[][] = {{0,1},{2,3}}

- 2dimension array's length

int size1 = intArray.length; // row

int size2 = intArray[0].length; // 0 row's a number of columns

Part4. Containers

Set : non-sequential and non-duplicate set

List : sequential and duplicate set

Map : key, value is a pair / key cannot be duplicated

- Set

```
public class Set {
        public static void main(String[] args) {
        HashSetlist = new HashSet();
        list.add("2014");
        list.clear();
        list.add("2015");
        list.add("computer");
        list.add("programming");
        list.add("java");
```

```
        System.out.println(list.size());
        System.out.println(list.contains("java"));
        list.remove("java");
        System.out.println(list.size());
        print(list.toArray());
        }

        public static void print(Object[] obj){
        int count = obj.length;
        for(int i=0; i<count; i++){
        System.out.println(obj[i]);
        }
        }
```

- List

```
public class List {

        public static void main(String[] args) {
        ArrayListlist = new ArrayList();
        list.add("2014");
        list.clear();
        list.add("2015");
        list.add("computer");
        list.add("programming");
        list.add("java");
        System.out.println(list.size());
        System.out.println(list.contains("java"));
        list.remove("java");
        System.out.println(list.size());
        System.out.println(list.indexOf("computer"));
        print(list.toArray());
        }

        public static void print(Object[] obj){
        int count = obj.length;
        for(int i=0; i<count; i++){
        System.out.println(obj[i]);
        }
        }
}
```

- Map

```
public class Map {

	public static void main(String[] args) {
	// TODO Auto-generated method stub
	HashMaplist = new HashMap();
	list.put("0", "2014");
	list.clear();
	list.put("1","2015");
	list.put("2","computer");
	list.put("3","programming");
	System.out.println(list.size());
	System.out.println(list.containsKey("3"));
	list.remove("2");
	System.out.println(list.size());
	System.out.print(list);
	}
}
```

[Exercise]

Using a HashMap, make a member management program. each member has id(key) value and name(value) value. In the main screen, make a menu. and when you input the number. you can execute that menu. '1. member list 2. add member 3. search member 4. delete member 5. exit'. After executing that menu, ask exit or not. Main menu always show a number of members.

- iterator, HashMap

http://docs.oracle.com/javase/7/docs/api/java/util/HashMap.html
http://docs.oracle.com/javase/7/docs/api/java/util/Iterator.html