Array List Methods

package class25;

import java.util.ArrayList;

public class ArrayListMethods {

public static void main(String[] args) {

ArrayList<String> makeUpItem=new ArrayList<>();

makeUpItem.add("Blush");

makeUpItem.add("Base");

makeUpItem.add("concealer");

makeUpItem.add("Mascara");

makeUpItem.add("eyeLinear");

makeUpItem.add("lipstick");

ArrayList<String> cosmetics=new ArrayList<>();

cosmetics.add("Dove Soap");

cosmetics.add("Conditioner");

cosmetics.add("shampoo");

cosmetics.add("lotion");

ArrayList<String> beautyProducts=new ArrayList<>();

//adds everything from makeUpItem to beautyProducts

beautyProducts.addAll(makeUpItem);

beautyProducts.addAll(cosmetics);

System.out.println(beautyProducts);

beautyProducts.remove("lotion"); // removes only one item

System.out.println(beautyProducts);

beautyProducts.removeAll(cosmetics);

System.out.println(beautyProducts);

beautyProducts.clear(); // removes everything

System.out.println(beautyProducts);

}

}

Contains

package class25;

import java.util.ArrayList;

public class ContainsAllDemo {

public static void main(String[] args) {

ArrayList<String> beautyProducts=new ArrayList<>();

beautyProducts.add("Blush");

beautyProducts.add("Base");

beautyProducts.add("concealer");

beautyProducts.add("Mascara");

beautyProducts.add("eyeLinear");

beautyProducts.add("lipstick");

beautyProducts.add("Dove Soap");

beautyProducts.add("Conditioner");

beautyProducts.add("shampoo");

beautyProducts.add("lotion");

/\* System.out.println(beautyProducts.contains("lipstick"));

System.out.println(beautyProducts.contains("Mascara"));

System.out.println(beautyProducts.contains("eyeLinear"));\*/

ArrayList<String> cosmetics=new ArrayList<>();

cosmetics.add("Dove Soap");

cosmetics.add("Conditioner");

cosmetics.add("shampoo");

cosmetics.add("lotion");

System.out.println(beautyProducts.containsAll(cosmetics));

}

}

GenericCollection

package class25;

import java.util.ArrayList;

public class GenericCollection {

public static void main(String[] args) {

// Non-generic way of using collections framework this is how your ancestors use to write code before java

// 1.5 it causes a lot of problems at run time because java don't know at compile time what type of data

//you are storing in this class and because java does not know it can't help you avoid these errors

ArrayList names=new ArrayList();

names.add("Serhi");

names.add(10);

// System.out.println(names);

System.out.println(((String)names.get(0)).length());

}

}

Iterator

package class25;

import java.util.ArrayList;

import java.util.Iterator;

public class IteratorDemo {

public static void main(String[] args) {

ArrayList<String> beautyProducts=new ArrayList<>();

beautyProducts.add("Blush");

beautyProducts.add("Base");

beautyProducts.add("Mascara");

beautyProducts.add("lipstick");

beautyProducts.add("Dove Soap");

beautyProducts.add("Conditioner");

beautyProducts.add("Primer");

beautyProducts.add("shampoo");

beautyProducts.add("lotion");

beautyProducts.add("concealer");

beautyProducts.add("eyeLinear");

//get the iterator from the list

Iterator<String> iterator =beautyProducts.iterator();

/\* System.out.println(iterator.hasNext()); // we have one item

System.out.println(iterator.next()); //it gives us the item and also removes the items from iterator

System.out.println(iterator.hasNext());

iterator.next();

iterator.next();

System.out.println(iterator.next());\*/

//break till 2:01

while (iterator.hasNext()){

System.out.println(iterator.next());

}

}

}

Iterator

package class25;

import java.util.ArrayList;

import java.util.Iterator;

public class IteratorDemo1 {

public static void main(String[] args) {

ArrayList<String> beautyProducts=new ArrayList<>();

beautyProducts.add("Blush");

beautyProducts.add("Base");

beautyProducts.add("Mascara");

beautyProducts.add("lipstick");

beautyProducts.add("Dove Soap");

beautyProducts.add("Conditioner");

beautyProducts.add("Primer");

beautyProducts.add("shampoo");

beautyProducts.add("lotion");

beautyProducts.add("concealer");

beautyProducts.add("eyeLinear");

Iterator<String> iterator=beautyProducts.iterator();

while (iterator.hasNext()){

// String item= iterator.next(); //better approach

if(iterator.next().endsWith("r")){

iterator.remove();

}

}

System.out.println(beautyProducts);

}

}

Iterator

package class25;

import java.util.ArrayList;

import java.util.Iterator;

public class IteratorDemo2 {

public static void main(String[] args) {

ArrayList<String> beautyProducts=new ArrayList<>();

beautyProducts.add("Blush");

beautyProducts.add("Base");

beautyProducts.add("Mascara");

beautyProducts.add("lipstick");

beautyProducts.add("Dove Soap");

beautyProducts.add("Conditioner");

beautyProducts.add("Primer");

beautyProducts.add("shampoo");

beautyProducts.add("lotion");

beautyProducts.add("concealer");

// beautyProducts.add("eyeLinear");

Iterator<String> iterator=beautyProducts.iterator();

System.out.println(beautyProducts.size());

while (iterator.hasNext()){

System.out.println(iterator.next());

System.out.println(iterator.next());

}

System.out.println(beautyProducts);

}

}

package class25;

delete all the products which start with letter B or ends with letter a

import java.util.ArrayList;

public class IteratorDemo3 {

public static void main(String[] args) {

// delete all the products which start with letter B or ends with letter a

ArrayList<String> beautyProducts=new ArrayList<>();

beautyProducts.add("Blush");

beautyProducts.add("Base");

beautyProducts.add("Mascara");

beautyProducts.add("lipstick");

beautyProducts.add("Dove Soap");

/\*

var number=10;

var name="Tymur";

var decimalNumber=21.5;

\*/

var iterator = beautyProducts.iterator();

while (iterator.hasNext()){

// var item=iterator.next(); java 11

String item=iterator.next();

if(item.startsWith("B")||item.endsWith("a")){

iterator.remove();

}

}

System.out.println(beautyProducts);

}

}

IteratorDemo4WithLambda

package class25;

import java.util.ArrayList;

public class IteratorDemo4WithLambda {

public static void main(String[] args) {

// delete all the products which start with letter B or ends with letter a

ArrayList<String> beautyProducts=new ArrayList<>();

beautyProducts.add("Blush");

beautyProducts.add("Base");

beautyProducts.add("Mascara");

beautyProducts.add("lipstick");

beautyProducts.add("Dove Soap");

/\*

var number=10;

var name="Tymur";

var decimalNumber=21.5;

\*/

// var item=iterator.next(); java 11

beautyProducts.removeIf(x -> x.startsWith("B"));

System.out.println(beautyProducts);

}

}

Notes

Collections Framework:

Collection framework is collection of multiple classes and interfaces which help us process the data

efficiently and easily.

why we should learn about it.

1) Its very flexible.

2) Provide ready-made methods that we can just use.

what is the Syntax?

Its similar how we create the object of any class, but we use <> to specify the name of the class whose objects

we are going to store in that class.

Issues with Collections framework:

1) Collection framework does not work with primitive datatypes(solution is use wrapper classes).

Note: frequently asked in interviews!!!!!!!

Wrapper classes:

wrapper classes are object types for all primitive types.

Boxing:

converting the primitive data type to its corresponding wrapper type by explicitly calling methods.

int num=10;

// boxing or manual conversion from primitive to wrapper type

// Integer wrappedNum=Integer.valueOf(num);

Auto Boxing:

converting the primitive data type to its corresponding wrapper type by simply assigning the values.

Integer wrappedNum=10;

Unboxing:

Converting a wrapper type to its corresponding primtive type by explicitly calling a method.

//unboxing converting a wrapper type to a corresponding primitive type

// int num2=wrappedNum.intValue();

Auto Unboxing:

converting a wrapper to corresponding primitive automatically by just assigning the value.

Integer wrappedNum=new Integer(10);

int num2=wrappedNum;

Iterators:

Remove All Demo

package class25;

import java.util.ArrayList;

public class RemoveAllDemo {

public static void main(String[] args) {

ArrayList<String> makeUpItem=new ArrayList<>();

makeUpItem.add("Blush");

makeUpItem.add("Base");

makeUpItem.add("concealer");

makeUpItem.add("Mascara");

makeUpItem.add("eyeLinear");

makeUpItem.add("lipstick");

ArrayList<String> itemsToBeRemoved=new ArrayList<>();

itemsToBeRemoved.add("Blush");

itemsToBeRemoved.add("Base");

itemsToBeRemoved.add("concealer");

itemsToBeRemoved.add("Josh");

makeUpItem.removeAll(itemsToBeRemoved);

// makeUpItem.clear(); // it removes everything

System.out.println(makeUpItem);

}

}

Array List that will store 5 names into it

package class25;

import java.util.ArrayList;

public class Task1 {

public static void main(String[] args) {

/\*Create an ArrayList that will store 5 names into it.Find out whether the given ArrayList

is empty or not?Check whether the specific name is present in an ArrayList or not?Find the size

of your ArrayList and print all values from that.

\*/

ArrayList<String> names=new ArrayList<>(5);

names.add("Nesrin");

names.add("Vidaya");

names.add("Jam");

names.add("Jamo");

names.add("Jami");

System.out.println(names.isEmpty()); //given ArrayList is empty or not?

System.out.println(names.contains("Jam"));

System.out.println(names.contains("Dam"));

System.out.println(names.size());

System.out.println(names);

}

}

Wrapper Classes

package class25;

import java.util.ArrayList;

public class WrapperClasses {

public static void main(String[] args) {

int num=10;

// boxing or manual conversion from primitive to wrapper type

// Integer wrappedNum=Integer.valueOf(num);

// AutoBoxing or automatic conversion of a primitive to a wrapper type

Integer wrappedNum=10;

System.out.println(wrappedNum);

ArrayList<Integer> numbers=new ArrayList<>();

numbers.add(10);

//unboxing converting a wrapper type to a corresponding primitive type

// int num2=wrappedNum.intValue();

// Auto unboxing or automatic conversion of a wrapper type to a primitive type

int num2=wrappedNum;

}

}

Why We Need Iterator

package class25;

import java.util.ArrayList;

public class WhyWeNeedIterator {

public static void main(String[] args) {

ArrayList<String> beautyProducts=new ArrayList<>();

beautyProducts.add("Blush");

beautyProducts.add("Base");

beautyProducts.add("Mascara");

beautyProducts.add("lipstick");

beautyProducts.add("Dove Soap");

beautyProducts.add("Conditioner");

beautyProducts.add("Primer");

beautyProducts.add("shampoo");

beautyProducts.add("lotion");

beautyProducts.add("concealer");

beautyProducts.add("eyeLinear");

//11

for (int i = 0; i < beautyProducts.size(); i++) {

if(beautyProducts.get(i).endsWith("r")){

beautyProducts.remove(i);

}

}

/\* for (String item:beautyProducts

) {

if(item.endsWith("r")){

beautyProducts.remove(item);

}

}\*/

System.out.println(beautyProducts);

}

}