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Tutorial exercises
Objektorientierte Programmierung: Wintersemester 2021/2022
Nr. 12

Task 12.1: Black Mesa

Find correct method-signatures for the given Lambda-expressions. If any signature should not be uniquely identifiable, give a reason why not. Find at least two different signatures whenever possible. You may be creative with the naming of the methods.

a) `() -> Math.random()`
b) `(x) -> x += 2`
c) `(String s, Integer k) -> { System.out.println(k + s); }`

Task 12.2: G-Man

You have been given a list of type `List<Integer>` with any content. Use the methods of `List` below in combination with Lambda-expressions to achieve the following goals:

a) Use `removeIf` and a `Predicate` to eradicate all multiples of `21` from the list.
b) Use `forEach` and a `Consumer` to copy every third element into another list.
c) Use `toArray` to generate a `String`-Array from the list.

Task 12.3: The only water in the forest is the River

Look at the following two methods:

```
1 public static boolean check1(int n) {
2   return IntStream.range(2, n).allMatch(i -> n%i != 0);
3 }
```

```
1 public static boolean check2(int n) {
2   return !IntStream.range(2, n).anyMatch(i -> n%i == 0);
3 }
```

a) What do these methods check for?
b) Where is the difference between these two methods?
c) Use one of these methods to create a sequence of numbers that fulfil that predicate.