

# Worksheet: Functional Programming and Recursion

## Functional Programming in Java

Write a function *evens*, that uses purely functional approach (no mutation, probably want to use recursion), that takes a *GList<Integer>* and outputs a list that contains only and all the even numbers from the original list, in the same order.

“Functional” solution:

```
public interface GList<T> {
    static GList<Integer> evens(GList<Integer> input){
        if (input.isEmpty()) return input;
        return input.head() % 2 == 0
            ? evens(input.tail()).prepend(input.head())
            : evens(input.tail());
    }
}
```

