

Streams

Understanding Pipeline

What is a Pipeline?

- a *stream* in Java is a sequence of data
- stream *pipeline* is set of operations that run on the stream to produce the result
- you can think of a pipeline as of an assembly line in the factory
 - every line has a beginning (source)
 - after that one by one element in the line is processed (intermediate operations)
 - finally, we get the result (terminal operation)
- data in the stream is not generated up front
 - rather, each element is created when needed → *lazy evaluation*

Stream Pipeline

1. Source

- where the stream comes from

2. Intermediate operations

- transforms the stream into another stream
- there can be as many (or as few) of these operations
- intermediate operations don't run until the terminal operation runs (*lazy*)

3. Terminal operation

- produces a result, and can be used only once
- after the terminal operation completes, stream is no longer valid

Stream Pipeline Schema

