

The diagram illustrates the transformation of a flat table into a hierarchical tree structure through four stages, connected by large grey arrows.

- Stage 1:** A flat table with two columns: an index column containing '1' and a data column containing 'Hello World'.
- Stage 2:** The data is split into two rows based on a hidden split point. The table has two rows:

1	1
2	3

 and

1	"Hello"
2	"World"
- Stage 3:** The data is further processed, with the second column values converted to uppercase:

1	1
2	3

 and

1	"HELLO"
2	"WORLD"
- Stage 4:** The final stage shows a hierarchical tree structure. The first table is identical to Stage 3. The second table is a single row:

1	"HELLO"
---	---------

Below the main sequence, a separate transformation is shown:

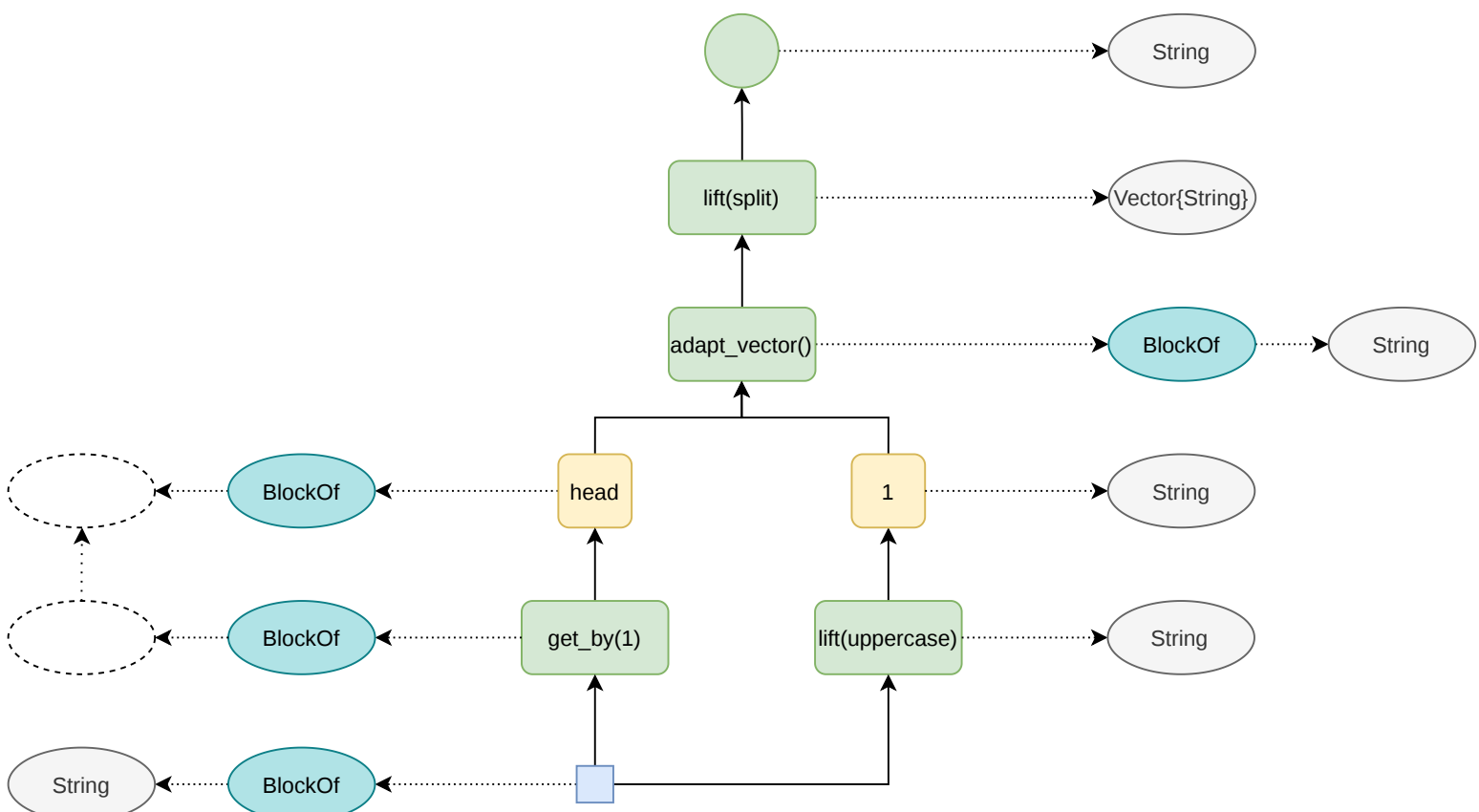
- Initial Flat Table:**

1	"HELLO"
2	"WORLD"
- Transformation:** A large grey arrow points down to the next structure.
- Final Hierarchical Structure:** A tree where the root splits into two children. The left child is a table with two rows:

1	1
2	3

 and the right child is a table with two rows:

1	1
2	2



wrap()



chain_of(tuple_of(2), column(1))



sieve_by()



chain_of(wrap(), block_length())



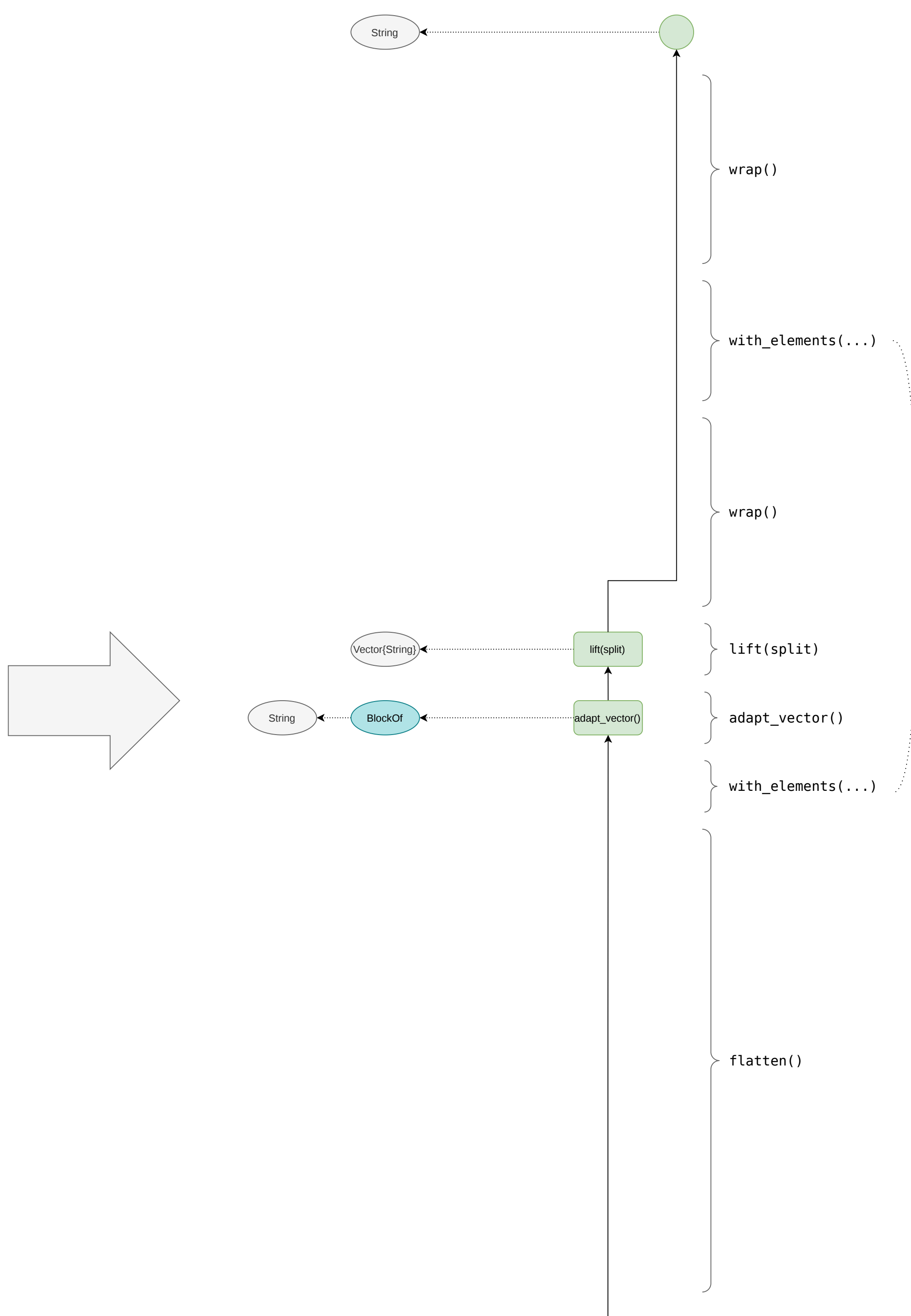
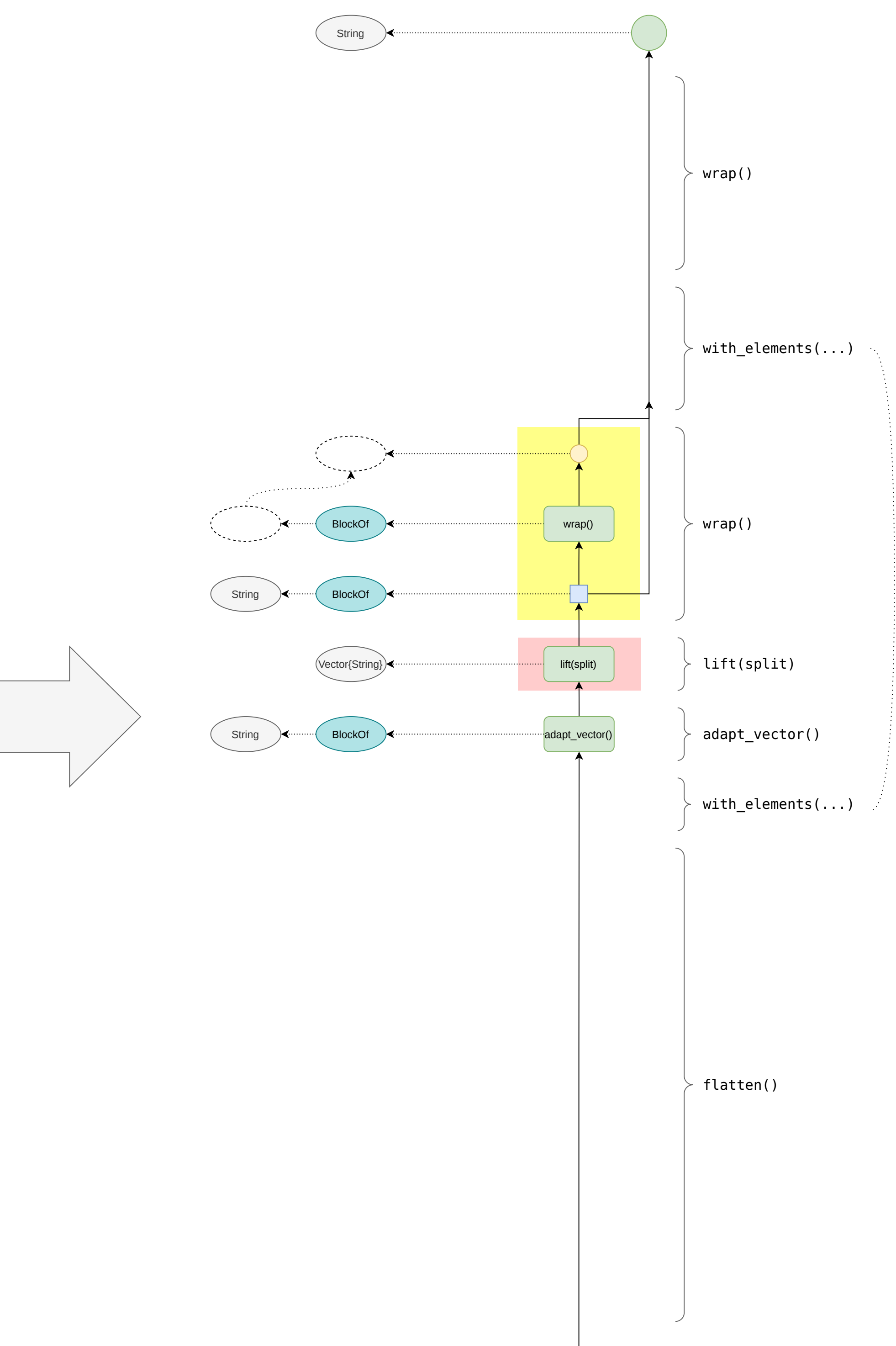
@query "Hello World" split(it)

```
chain_of(
  wrap(),
  with_elements(
    chain_of(
      wrap(),
      lift(split),
      adapt_vector()),
    flatten())
```



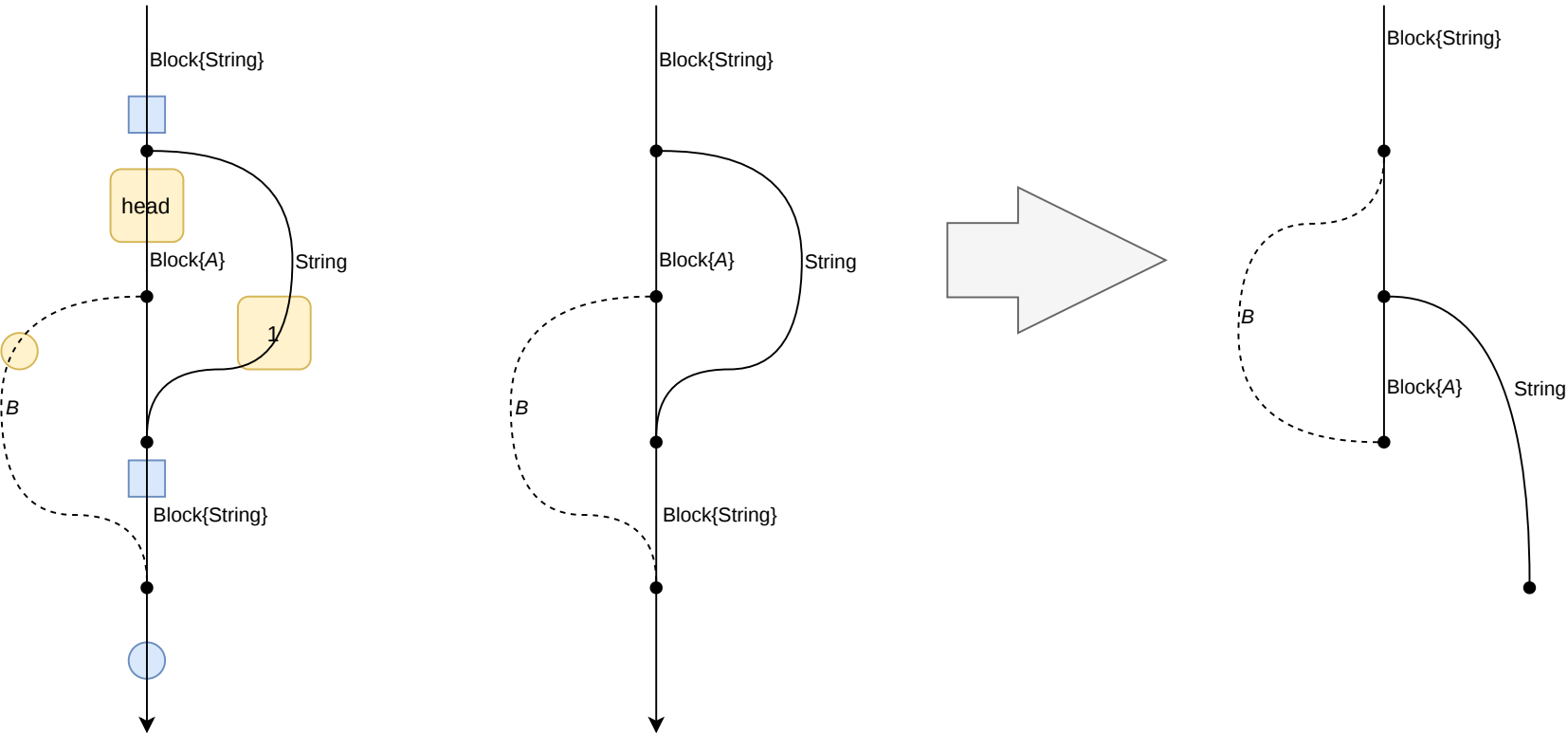
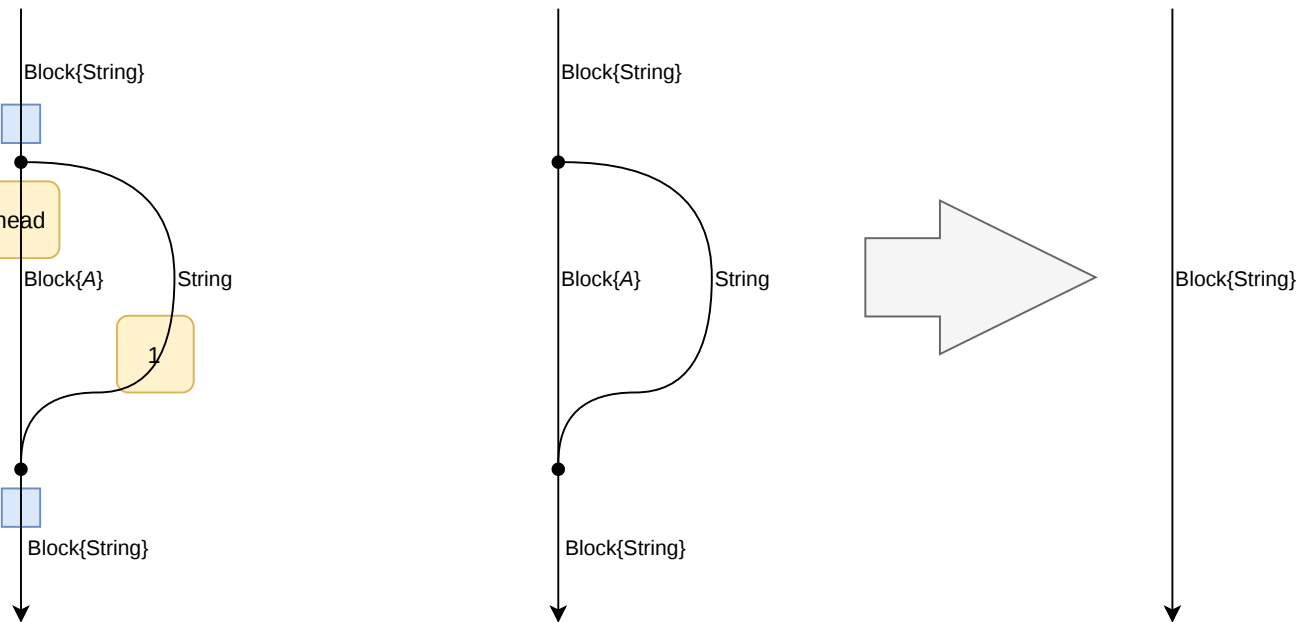
untrace(n::NodeRef, guard::NodeRef)::Tuple{Pipeline,Vector{NodeRef}}





@query "Hello World" split(it)

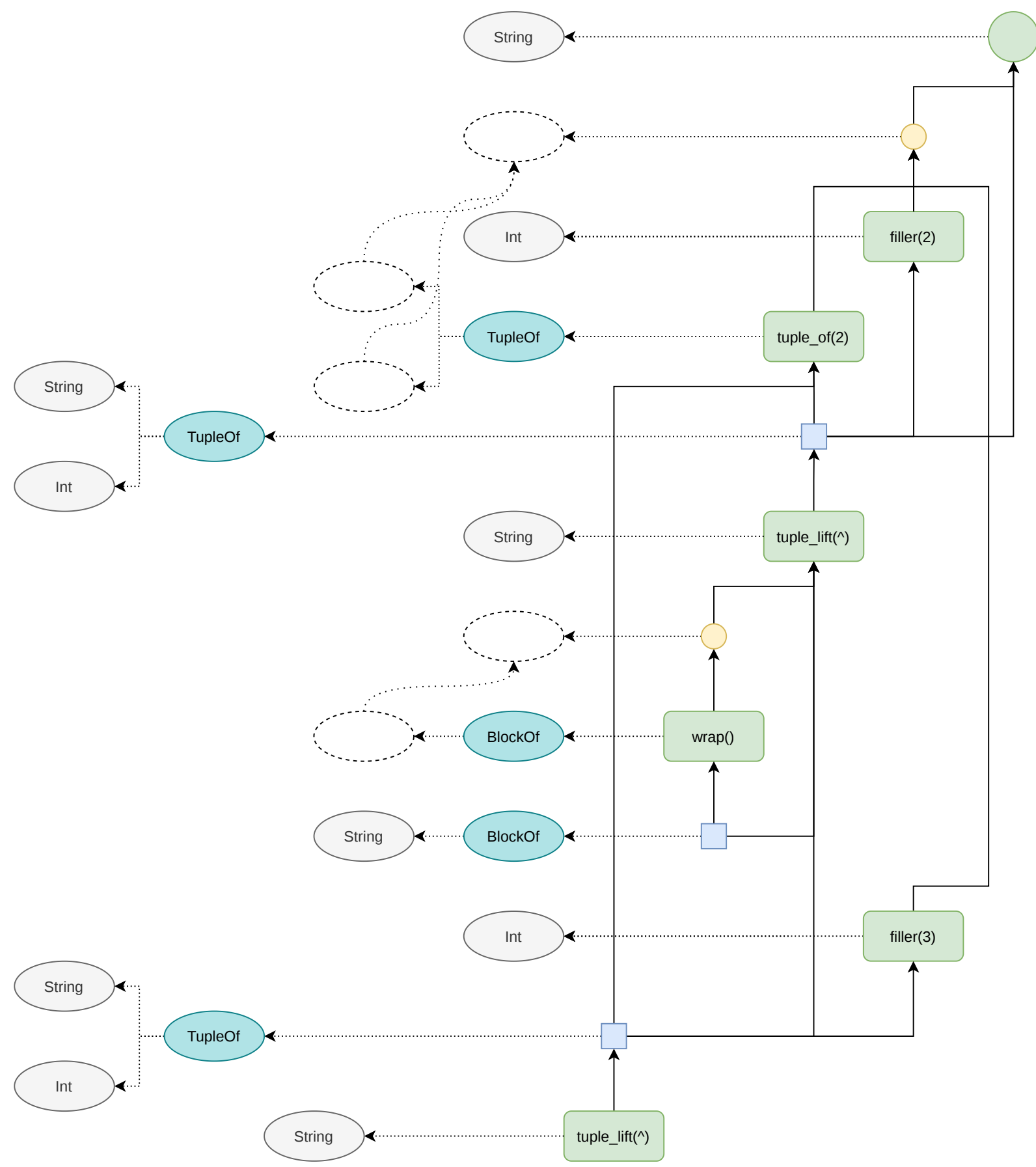
```
chain_of(
  wrap(),
  with_elements(
    chain_of(
      wrap(),
      lift(split),
      adapt_vector()),
    flatten())
```







`untrace(n::NodeRef, guard::NodeRef)::Tuple{Pipeline,Vector{NodeRef}}`

$$\{it^2, (it^2)^3\}$$


```
untrace(n::NodeRef, guard::NodeRef)::Tuple{Pipeline,Vector{NodeRef}}
```

@query "Hello World" split(it)

```
chain_of(
  wrap(),
  with_elements(wrap()),
  with_elements(lift(split)),
  with_elements(adapt_vector()),
  flatten())
```

