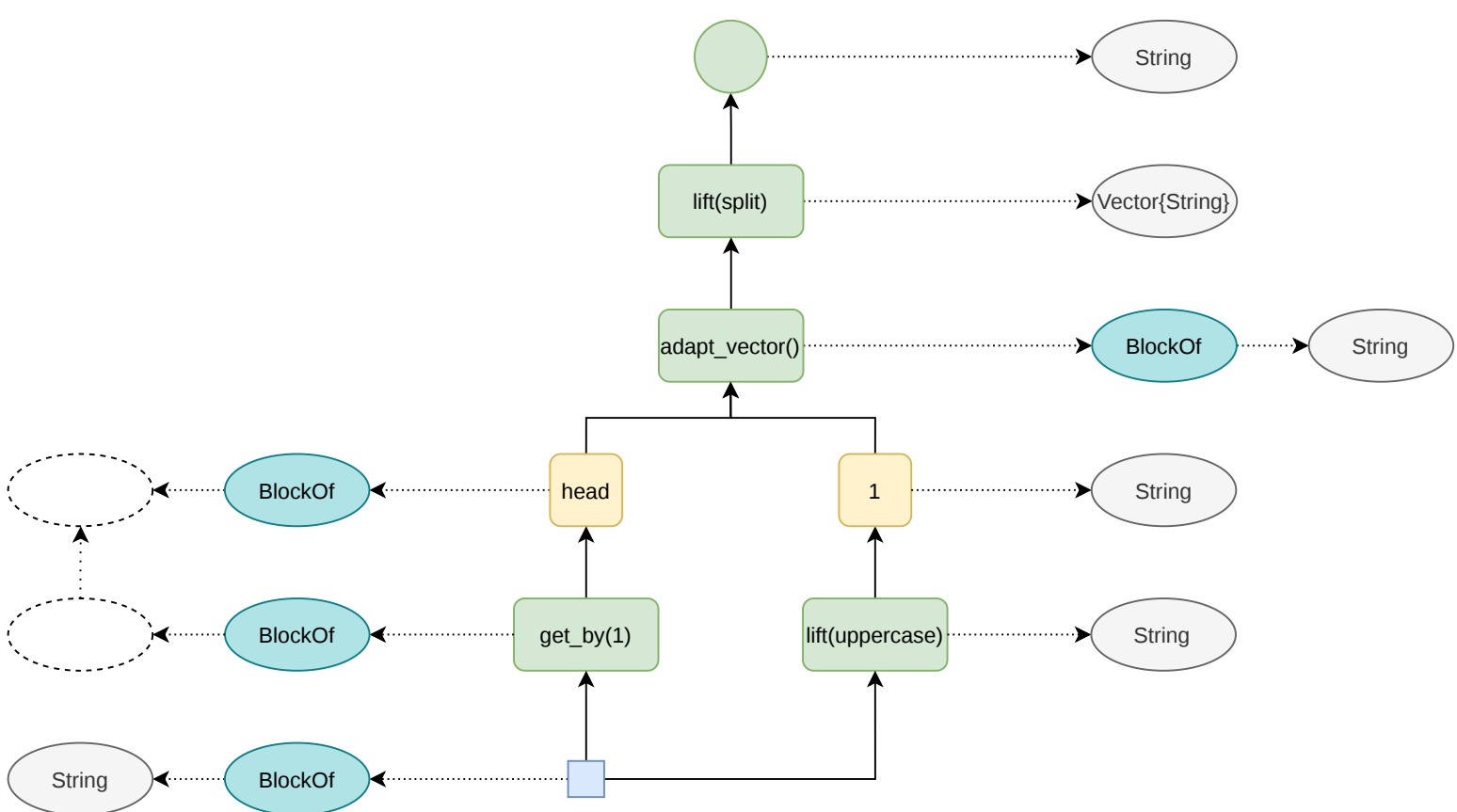




The diagram illustrates the transformation of a flat table into a hierarchical tree structure through four stages, connected by large gray arrows:

- 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 first row has index '1' and data '1'. The second row has index '2' and data '3'.
- Stage 3:** The data is further split into two columns based on a hidden split point. The first column has index '1' and data '1'. The second column has index '2' and data '3'.
- Stage 4:** The data is further split into two columns based on a hidden split point. The first column has index '1' and data '1'. The second column has index '2' and data '2'.

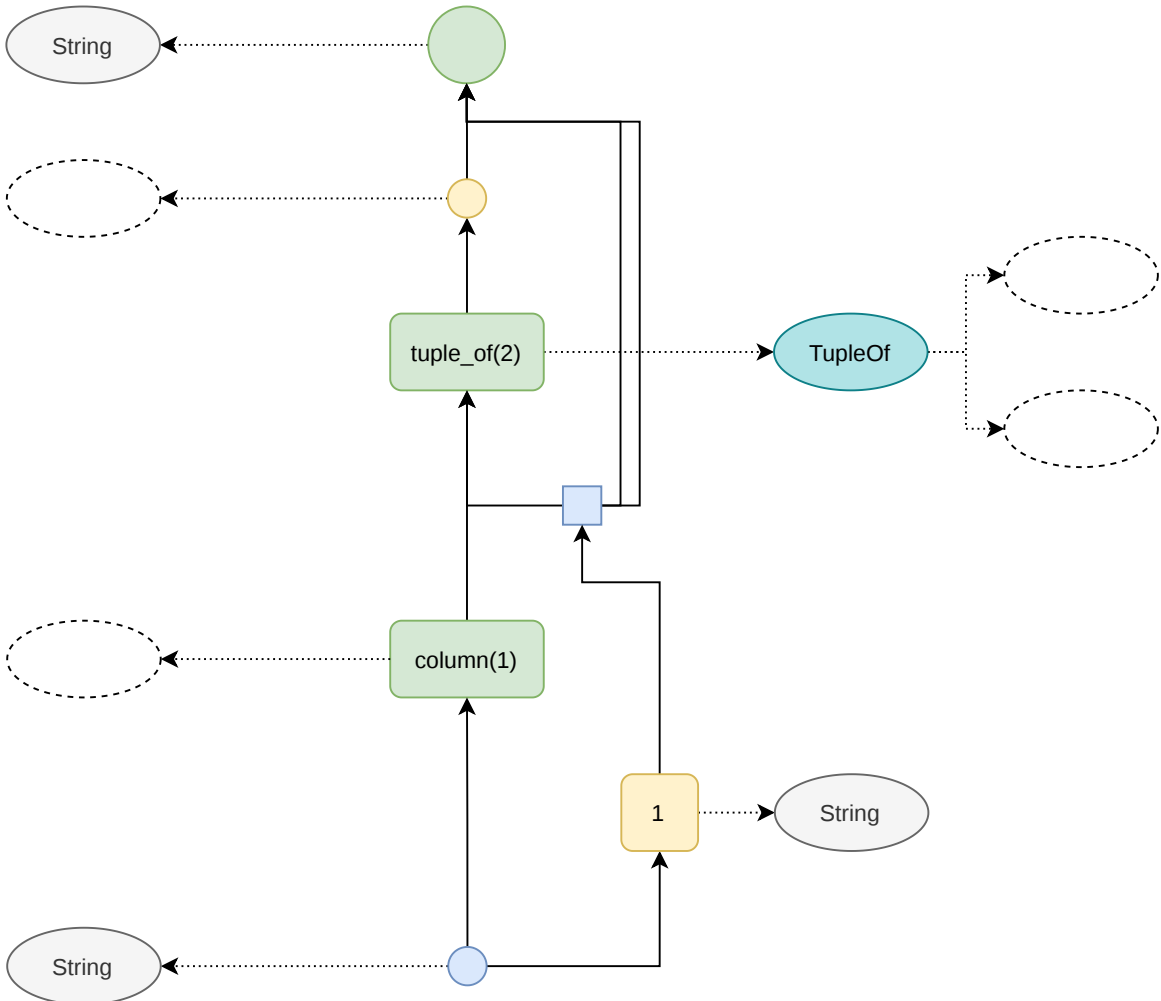
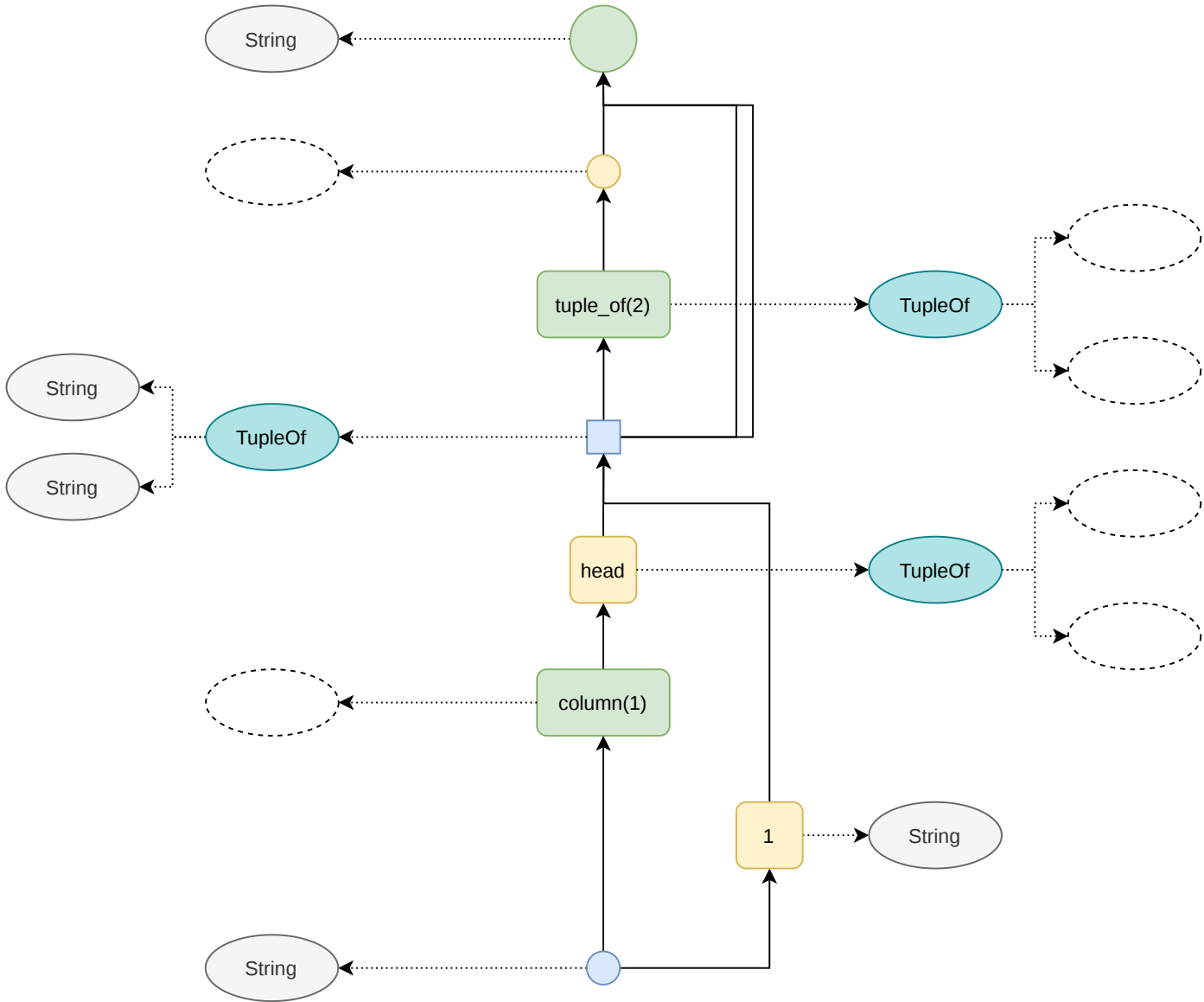
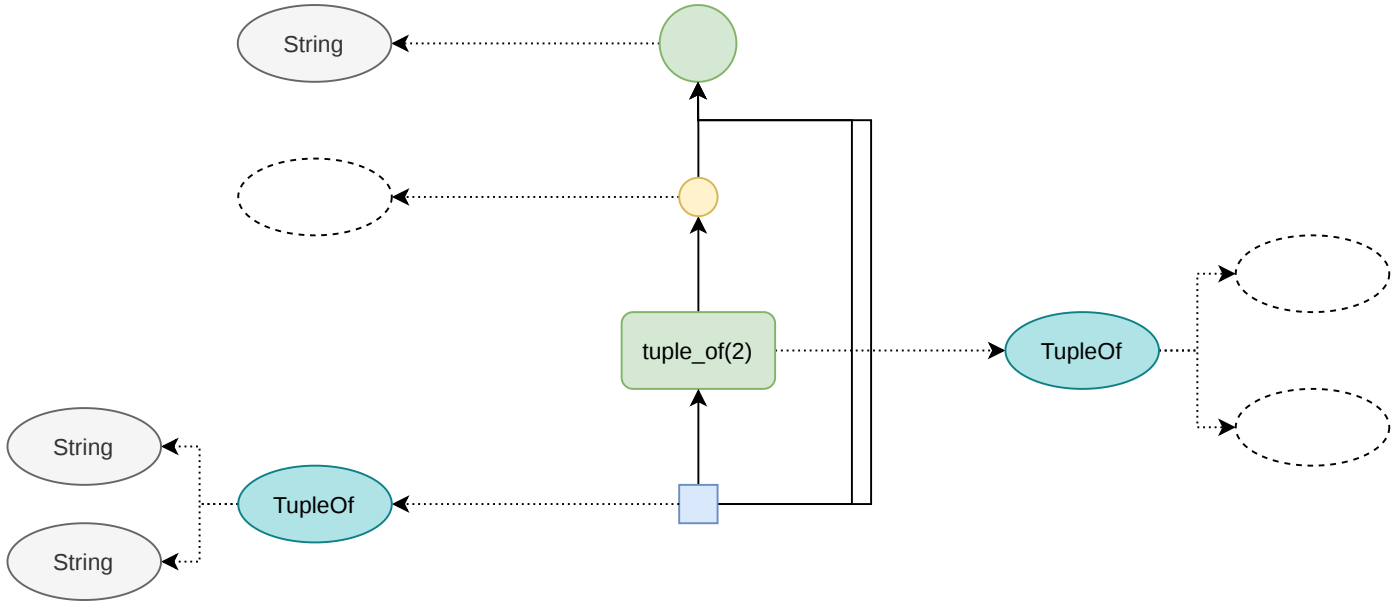
The final stage shows a hierarchical tree structure where the root node splits into two child nodes. The left child node splits into two leaf nodes, and the right child node splits into two leaf nodes. The leaf nodes contain the data '1' and '1' respectively.



wrap()



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



sieve_by()

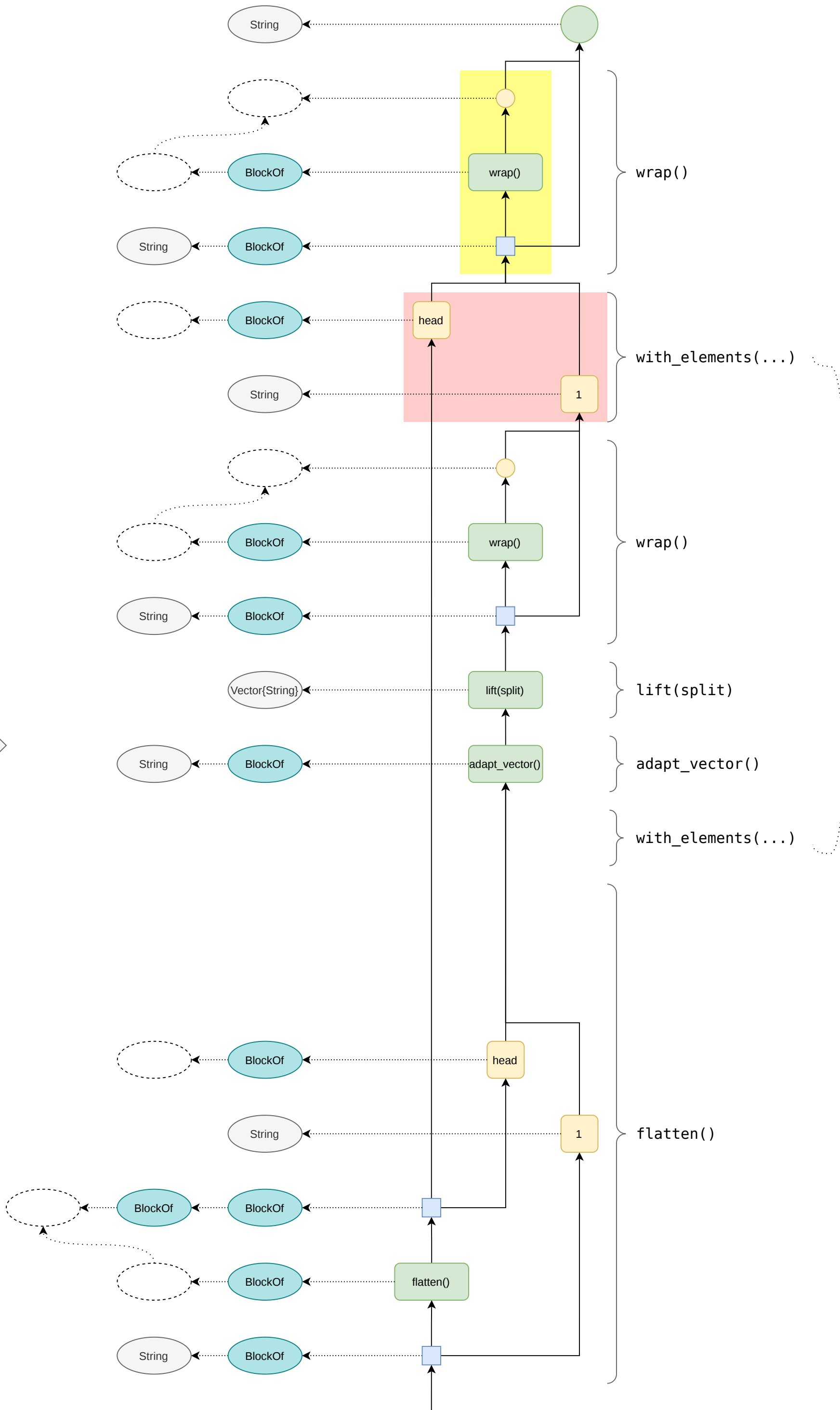
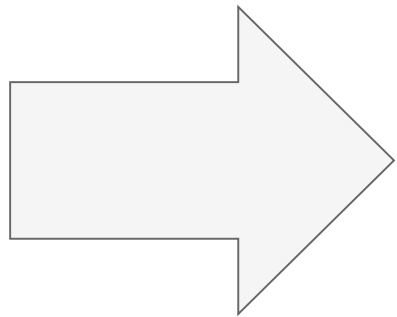
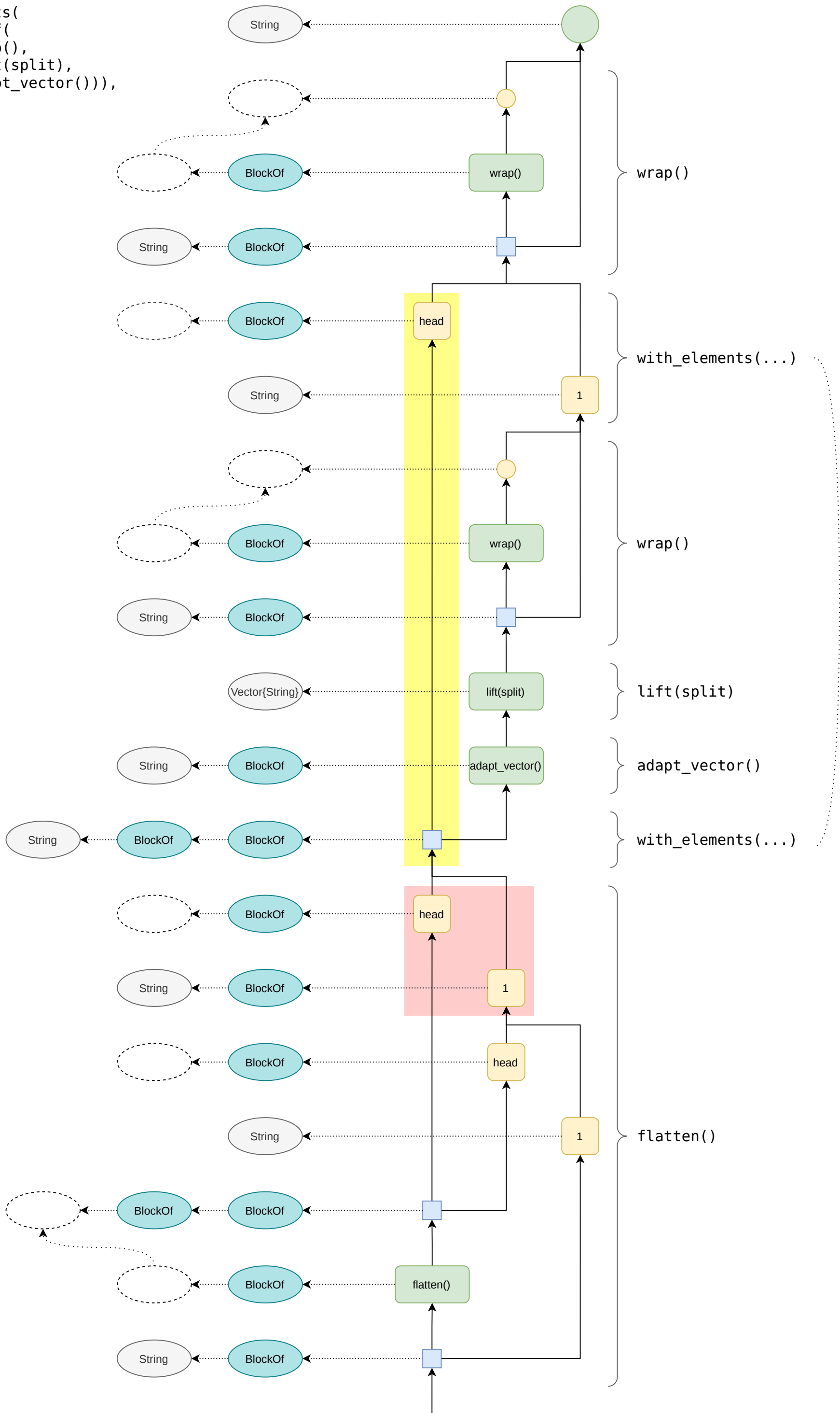


chain_of(wrap(), block_length())

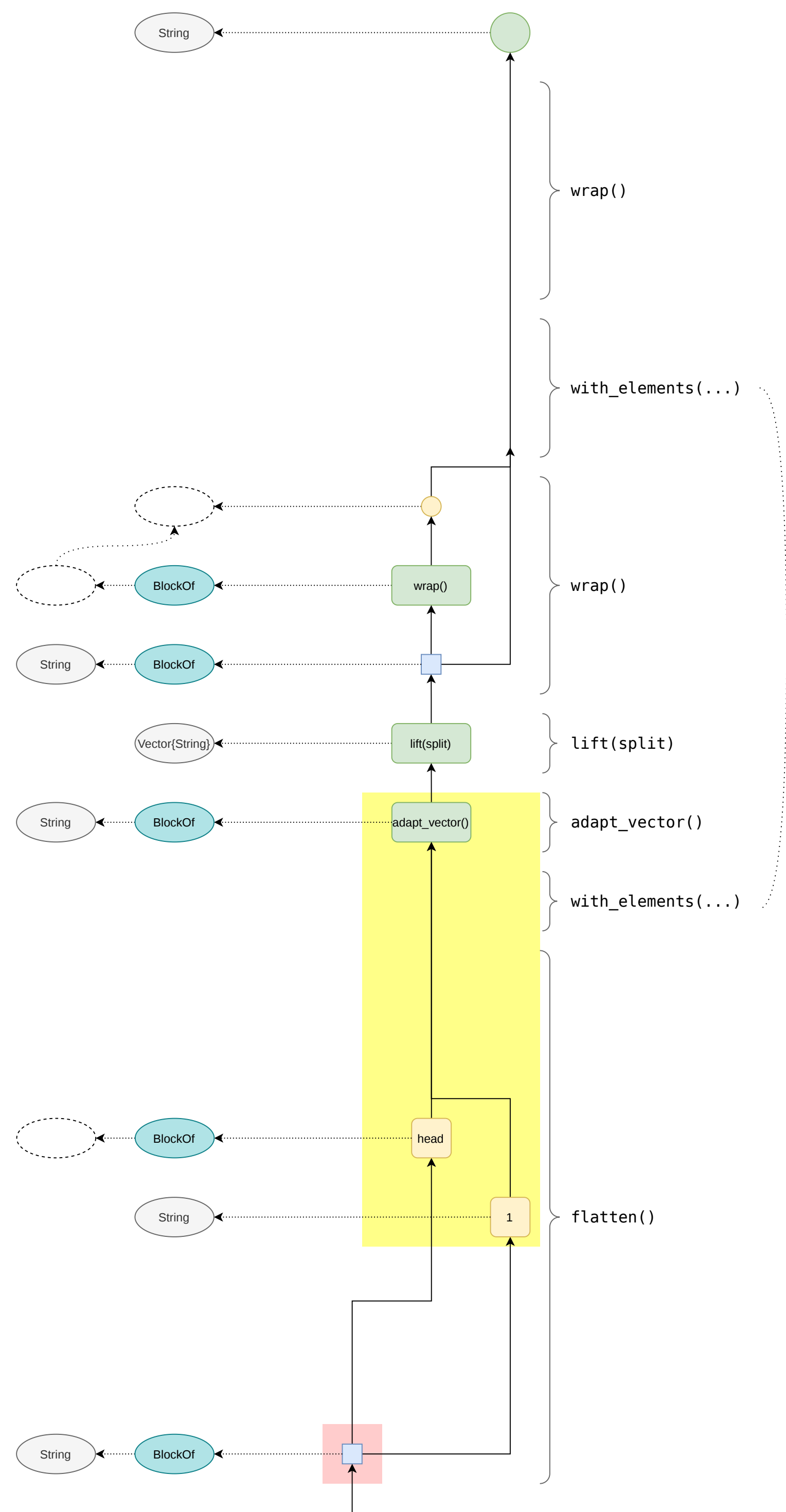
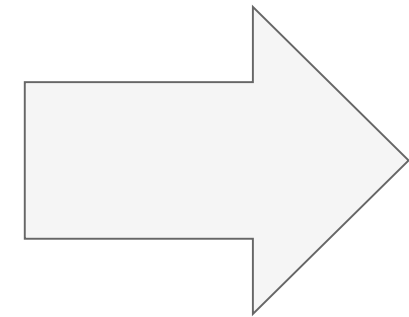
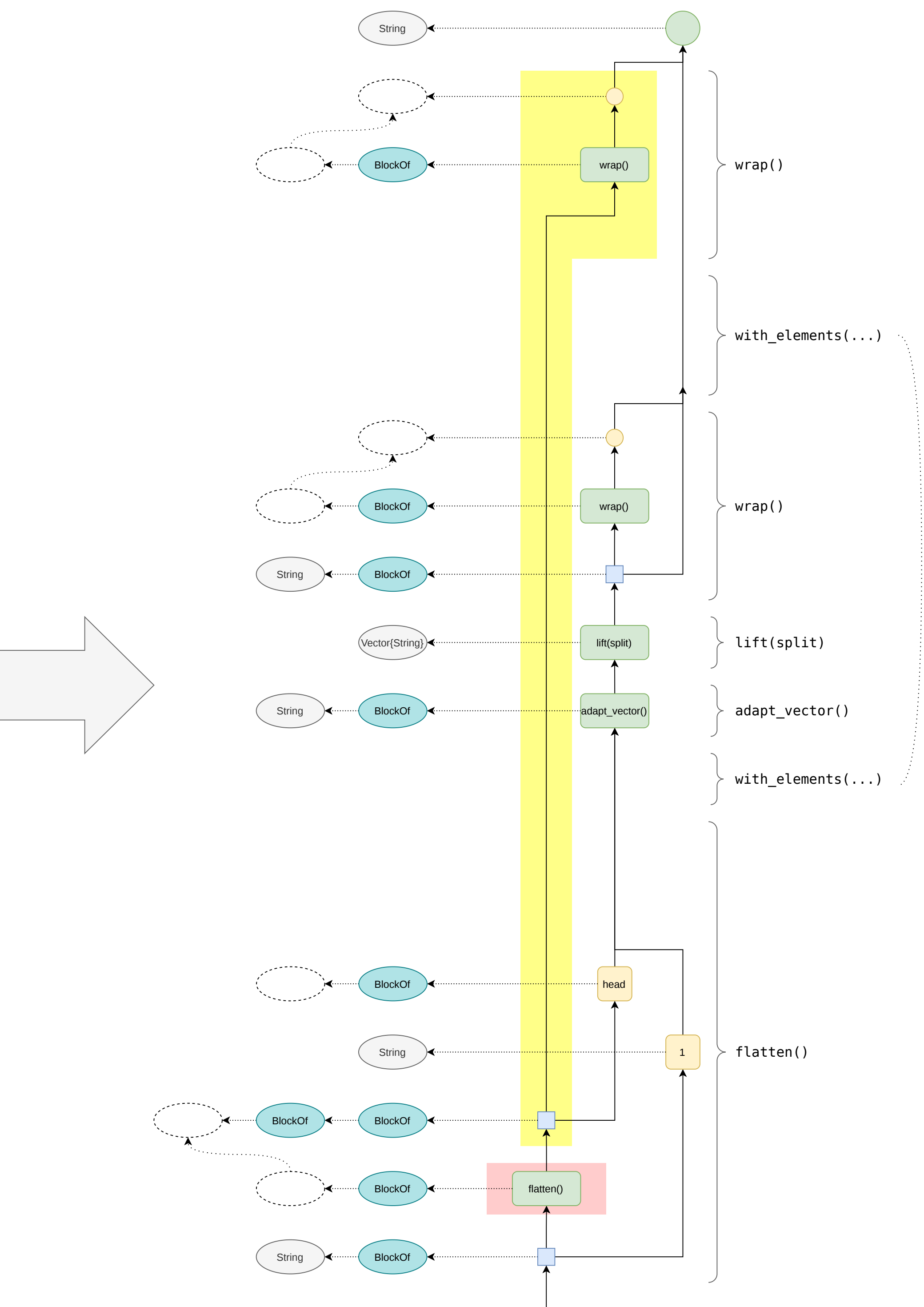


@query "Hello World" split(it)

```
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)

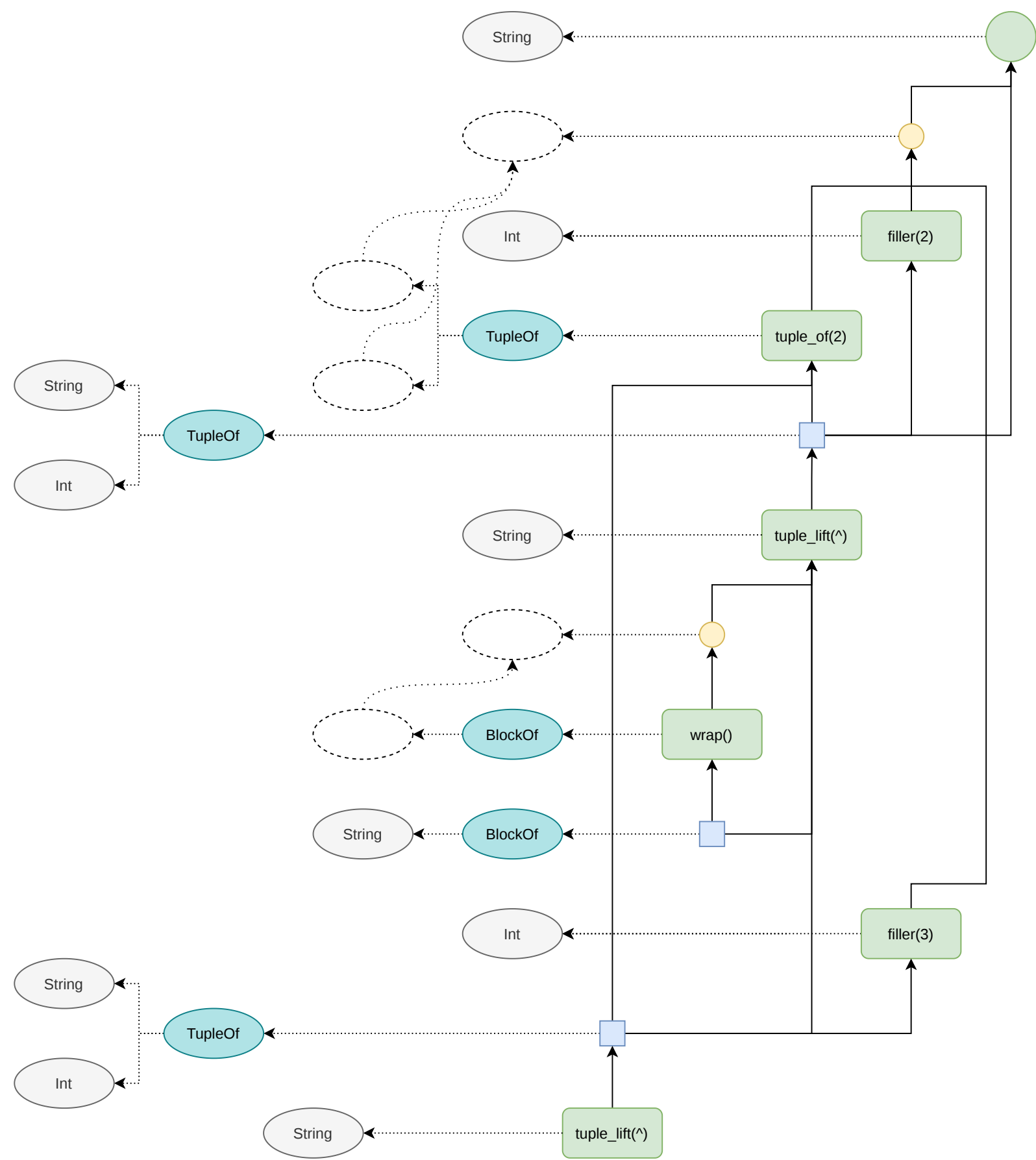
```
chain_of(
  wrap(),
  with_elements(
    chain_of(
      wrap(),
      lift(split),
      adapt_vector()),
    flatten())
```







`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())
```

