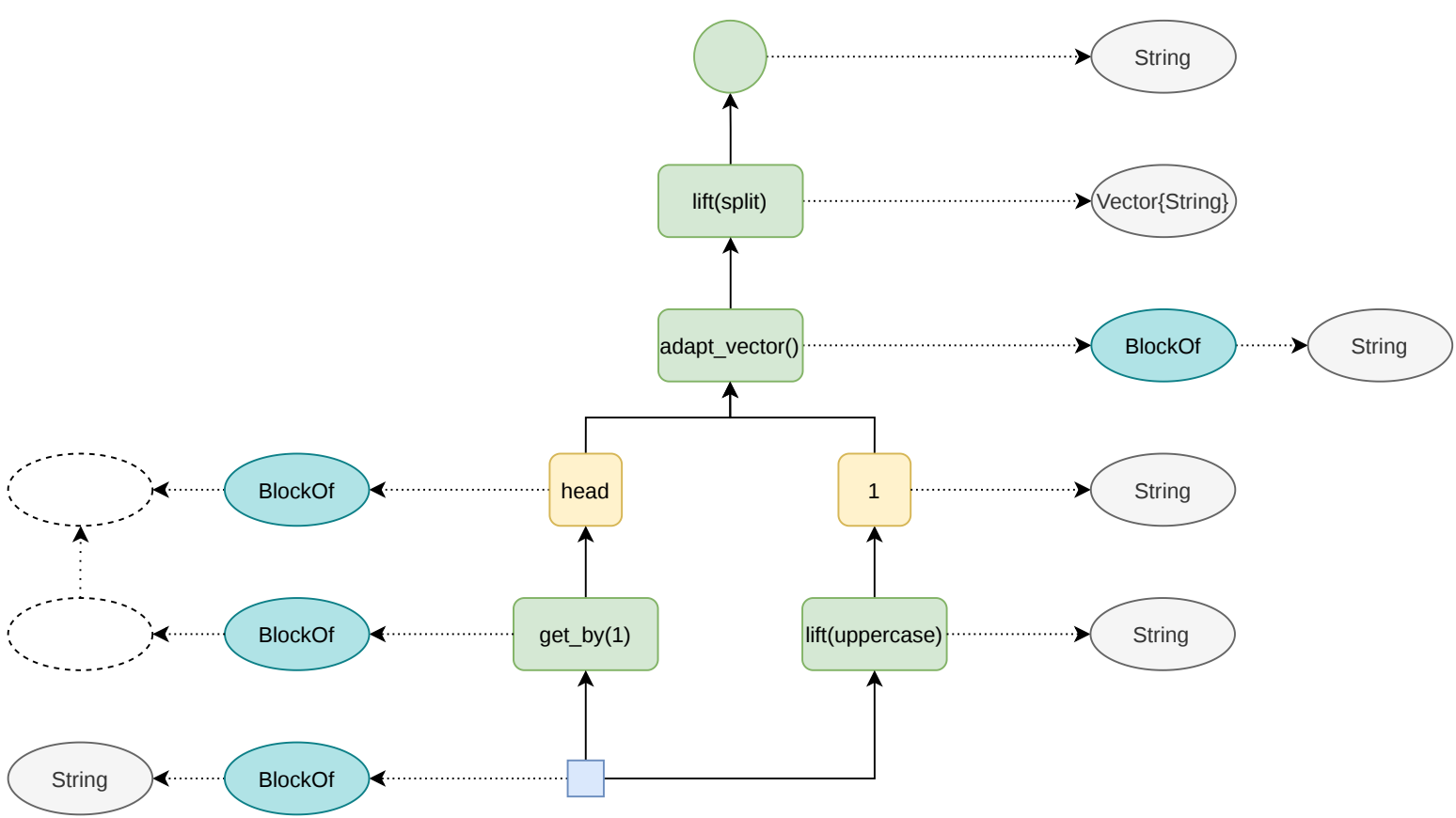


The diagram illustrates the transformation of a flat table into a hierarchical tree structure through four stages, connected by large grey arrows:

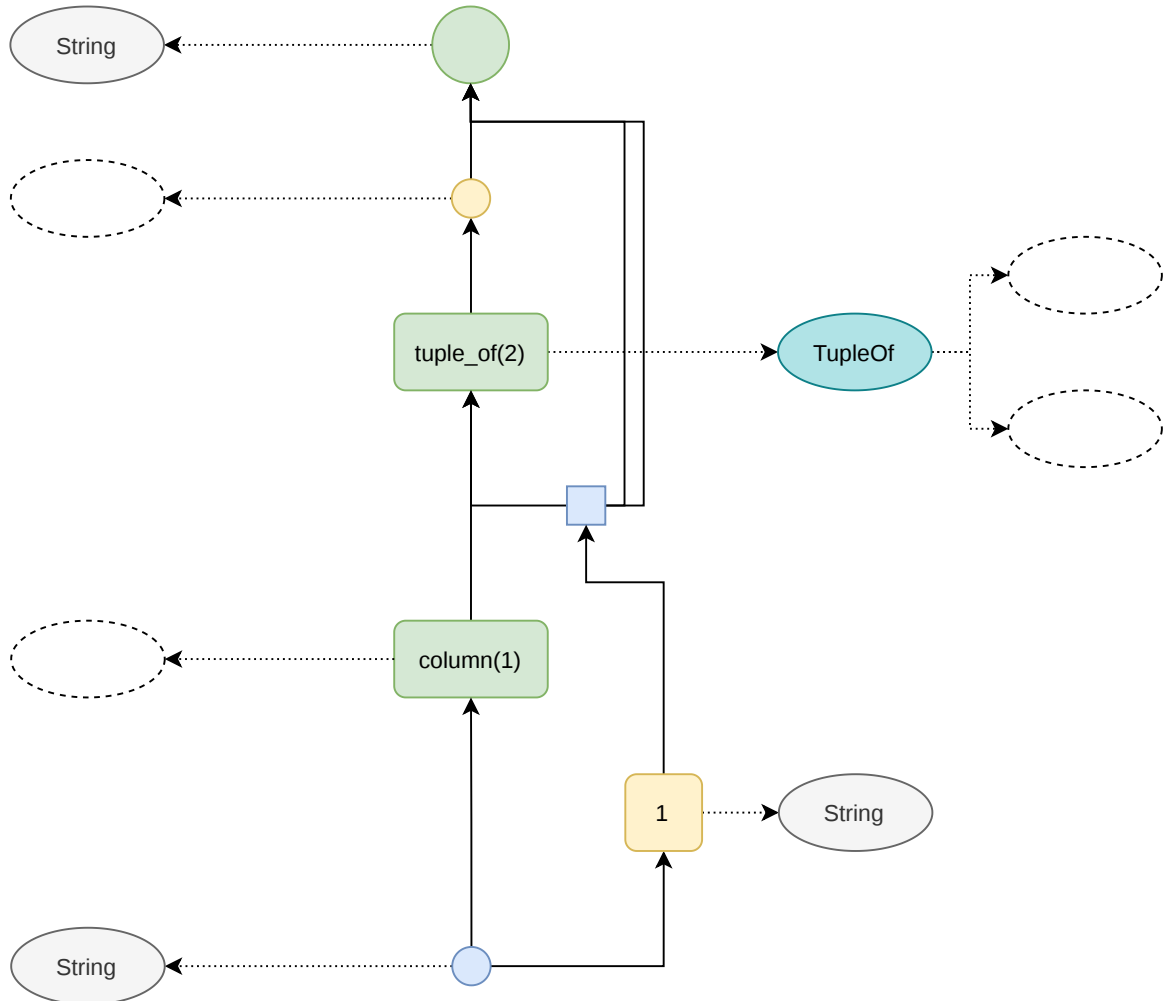
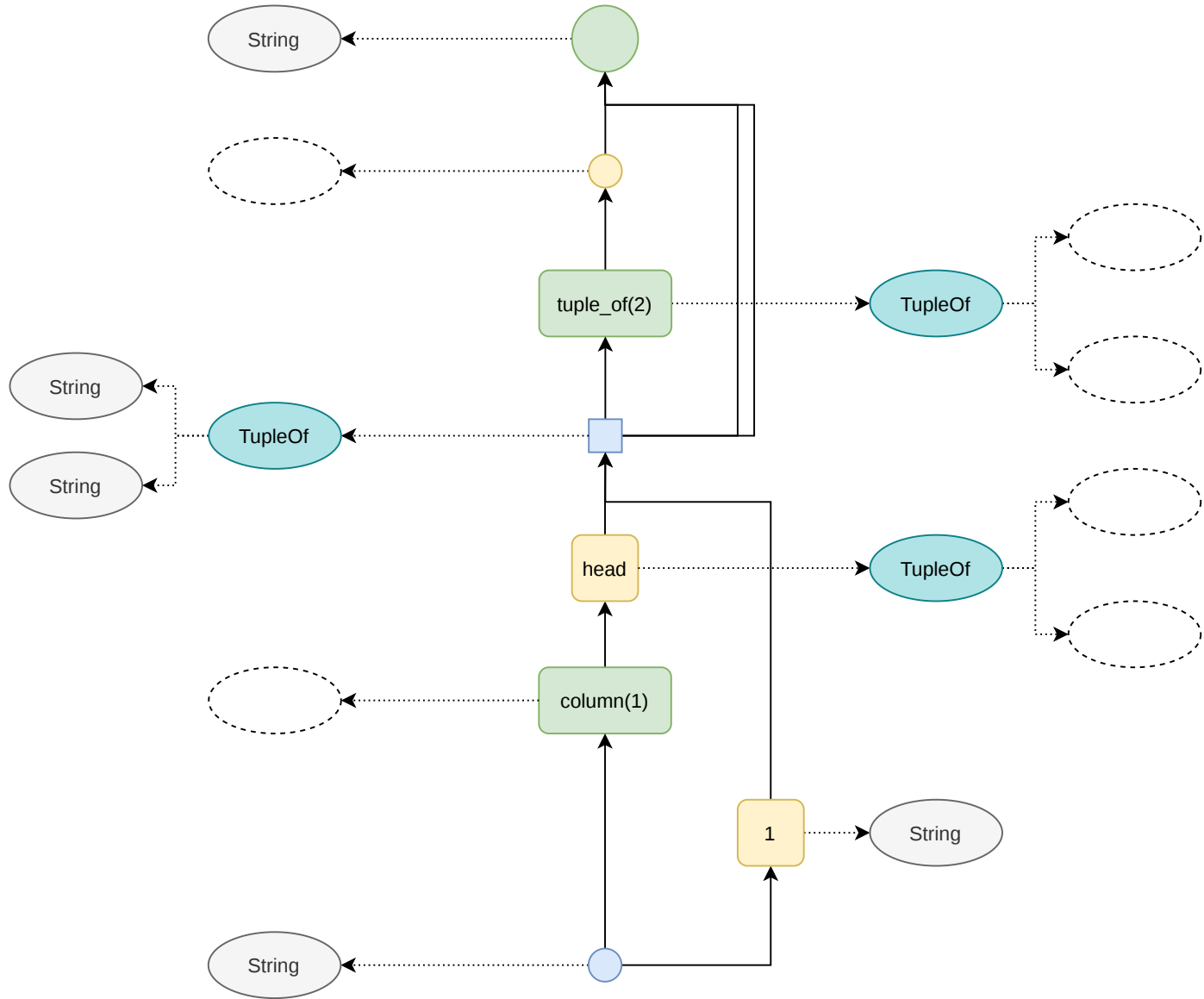
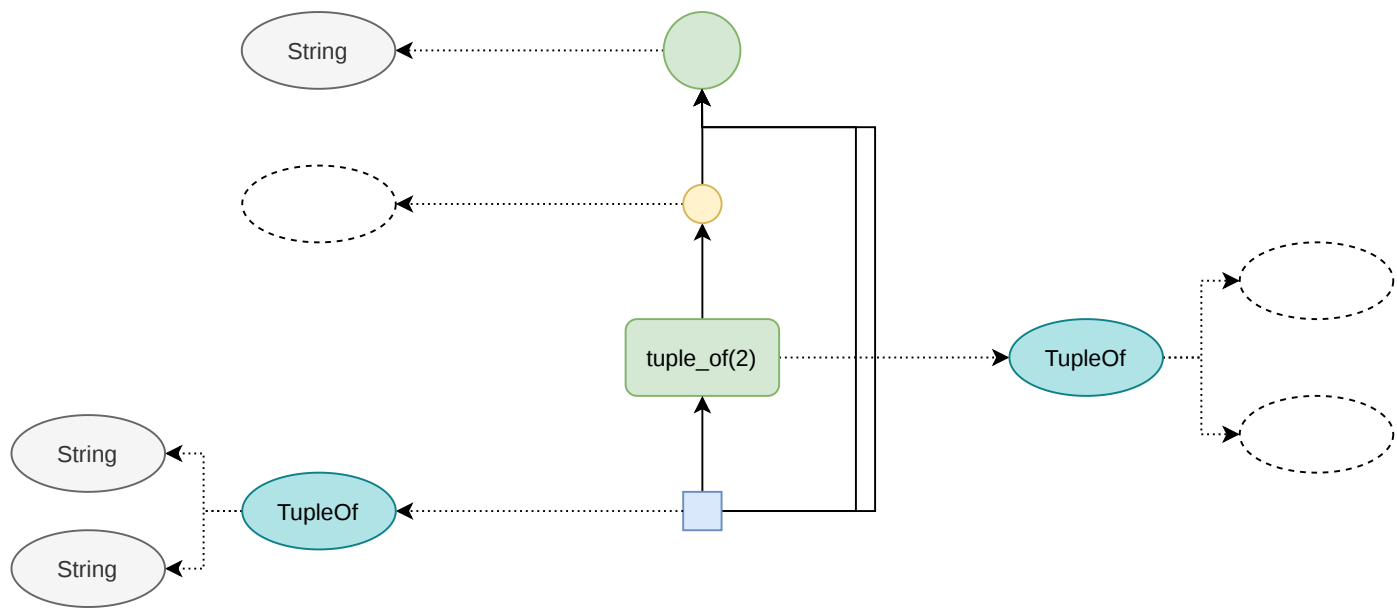
- Stage 1:** A flat table with two columns: an index column (1) and a value column ("Hello World").
- Stage 2:** The table is transformed into a hierarchical structure. The root node is a table with one column (1) and one row (String["Hello", "World"]). This root branches into two child nodes, each a table with two columns (1, 2) and two rows (1, 3) and ("Hello", "World").
- Stage 3:** The child nodes are further transformed. The first child node branches into two nodes with values 1 and 3. The second child node branches into two nodes with values "HELLO" and "WORLD".
- Stage 4:** The final structure is a tree where the root node branches into two nodes, each with two children. The left branch has nodes with values 1 and 3, and the right branch has nodes with values "HELLO" and "WORLD".



wrap()



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



sieve_by0



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}` `chain_of(f, tuple_of(g, h)) => tuple_of(chain_of(f, g), chain_of(f, h))`



`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())
```

