

CLAIMS:

1. A computer program product for identifying ancestor objects in hierarchical data stored in a database configured for processing with a query according to a query language, the query having an associated abstract syntax tree, AST, the computer program product comprising one or more computer readable storage mediums having program code embodied therewith, the program code comprising the programming instructions for:

processing, by a processing unit of a computing device, the AST associated with the query to determine a parent node of the AST relating to the query; and

augmenting, by an augmentation component of the computing device, the AST with metadata containing a parent identifier configured to identify the determined parent node of the query so as to generate an augmented AST thereby eliminating a need to pre-parse input data, wherein the augmenting of the AST with the parent identifier configured to identify the determined parent node so as to generate the augmented AST comprises the programming instructions for:

adding an ancestor attribute to the parent node of the AST, wherein the adding of the ancestor attribute to the parent node of the AST comprises the programming instructions for:

setting a value of the ancestor attribute to a predetermined value, wherein the predetermined value is based on a counter value, the counter value being incremented for each parent node that is identified.

2. The computer program product as recited in claim 1, wherein the processing of the AST associated with the query to determine the parent node of the AST relating to the query comprises the programming instructions for:

traversing the AST to determine a node of the AST that represents a parent node of the query.

3. The computer program product as recited in claim 1, wherein the parent identifier is configured to instruct a query processor to save a reference to the parent node.

4. The computer program product as recited in claim 1, wherein the program code further comprises the programming instructions for:

generating the abstract syntax tree by parsing the query.

5. The computer program product as recited in claim 1, wherein the program code further comprises the programming instructions for:

storing the augmented AST; and

associating the stored augmented AST with the hierarchical data.

6. The computer program product as recited in claim 1, wherein the hierarchical data comprises JSON data, wherein the query language is JSONata query language.

7. The computer program product as recited in claim 1, wherein the program code further comprises the programming instructions for:

creating a uniquely named label upon encountering an operator in the AST.

8. A system, comprising:

a memory for storing a computer program for identifying ancestor objects in hierarchical data stored in a database configured for processing with a query according to a query language, the query having an associated abstract syntax tree, AST; and

a processor connected to the memory, wherein the processor is configured to execute the program instructions of the computer program comprising:

processing, by a processing unit of the system, the AST associated with the query to determine a parent node of the AST relating to the query; and

augmenting, by an augmentation component of the system, the AST with metadata containing a parent identifier configured to identify the determined parent node of the query so as to generate an augmented AST thereby eliminating a need to pre-parse input data, wherein the augmenting of the AST with the parent identifier configured to identify the determined parent node so as to generate the augmented AST comprises:

adding an ancestor attribute to the parent node of the AST, wherein the adding of the ancestor attribute to the parent node of the AST comprises:

setting a value of the ancestor attribute to a predetermined value, wherein the predetermined value is based on a counter value, the counter value being incremented for each parent node that is identified.

9. The system as recited in claim 8, wherein the processing of the AST associated with the query to determine the parent node of the AST relating to the query comprises:

traversing the AST to determine a node of the AST that represents a parent node of the query.

10. The system as recited in claim 8, wherein the parent identifier is configured to instruct a query processor to save a reference to the parent node.

11. The system as recited in claim 8, wherein the program instructions of the computer program further comprise:

generating the abstract syntax tree by parsing the query.

12. The system as recited in claim 8, wherein the program instructions of the computer program further comprise:

storing the augmented AST; and

associating the stored augmented AST with the hierarchical data.

13. The system as recited in claim 8, wherein the hierarchical data comprises JSON data, wherein the query language is JSONata query language.

14. The system as recited in claim 8, wherein the program instructions of the computer program further comprise: creating a uniquely named label upon encountering an operator in the AST.

15. A method for identifying ancestor objects in hierarchical data stored in a database configured for processing with a query according to a query language, the query having an associated abstract syntax tree, AST, the method comprising:

processing, by a processing unit of a computing device, the AST associated with the query to determine a parent node of the AST relating to the query; and

augmenting, by an augmentation component of the computing device, the AST with metadata containing a parent identifier configured to identify the determined parent node of the query so as to generate an augmented AST thereby eliminating a need to pre-parse input data, wherein the augmenting of the AST with the parent identifier configured to identify the determined parent node so as to generate the augmented AST comprises:

adding an ancestor attribute to the parent node of the AST, wherein the adding of the ancestor attribute to the parent node of the AST comprises:

setting a value of the ancestor attribute to a predetermined value, wherein the predetermined value is based on a counter value, the counter value being incremented for each parent node that is identified.