
ALGORITHM 2: NCKG RETRIEVAL

Input: $C \leftarrow$ contract clause

Set up openAI, pygraphdb API

```
1  for clause in C
2  do
3      actor, object, event1  $\leftarrow$  extractElement(clause);
4      property  $\leftarrow$  sparqlQuery(object, hasProperty, ?property);
5      constraint1  $\leftarrow$  sparqlQuery(event1, hasConstraint, ?constraint);
6      statement1  $\leftarrow$  sparqlQuery(event1, hasContractualRelation, ?statement);
7      event2  $\leftarrow$  sparqlQuery(event1, hasContractualRelation, ?event);
8          Return (object, relation, property), (event1, hasConstraint, constraint1),
              (event1, hasContractualRelation, statement1)
9      end
10     If event2  $\neq$  None then                                     #Multi-hop query
11         Constraint2  $\leftarrow$  sparqlQuery(Event2, hasConstraint, ?Constraint);
12         statement2  $\leftarrow$  sparqlQuery(Event1, hasContractualRelation, ?Statement);
13         Return (event1, hasContractualRelation, event2), (event2,
                hasConstraint, constraint2), (event2, hasContractualRelation,
                statement2)
14     end
15     else
16         Continue
17     end if
18 end
```
