Table1 The original class Select in ApacheHSQLDB

Original Class Select	
Attributes	Methods
tFilter	resolve()
eCondition	resolve(TableFilter,oolean)
eColumn	checkResolved()
iResultLen	getValue(type)
iGroupLen	getResult(maxrows)
iOrderLen	updateAggregateRow(Object, Object, int)
sUnion	addAggregateRow(Result, Object, int, int)
sIntoTable	removeDuplicates(Result)
iUnionType	removeSecond(Result,esult minus)
UNION	removeDifferent(Result,esult2)
limitStart	sortResult(Result, int, int)
limitCount	trimResult(Result, maxrows)
	compareRecord(Object, Object,esult, int, int)
	compareRecord(Object, Object,esult, int)

Table2 The new classes extracted by developers

Class Extracted by the Developers - 1	
Attributes	Methods
	trimResult(Result, int)
	removeDuplicates(Result)
	removeSecond(Result, Result)
	removeDifferent(Result, Result r2)
	sortResult(Result, int, int)
	compareRecord(Object, Object, Result, int, int)
	compareRecord(Object, Object, Result, int)
Class Extracted by the Developers - 2	
Attributes	Methods
tFilter	resolve()
eCondition	resolve(TableFilter, boolean)
eColumn	checkResolved()
iResultLen	getValue(int type)
iGroupLen	getResult(int maxrows)
iOrderLen	updateAggregateRow(Object row, Object, int)
sUnion	addAggregateRow(Result x, Object row, int, int count)
sIntoTable	
iUnionType	
UNION	
limitStart	
limitCount	

Table3 The new classes extracted by our approach

Class Extracted our approach - 1	
Attributes	Methods
sUnion	compareRecord(Object[], Object[], Result, int)
iUnionType	compareRecord(Object[], Object[], Result, int, int)
iResultLen	getValue(int)
iOrderLen	getResult(int)
iGroupLen	checkResolved()
eCondition	addAggregateRow(Result, Object[], int, int)
limitStart	updateAggregateRow(Object[], Object[], int)
limitCount	resolve()
sIntoTable	resolve(TableFilter, boolean)
tFilter[]	
UNION	
eColumn[]	
Class Extracted our approach - 2	
Attributes	Methods
	trimResult(Result, int)
	sortResult(Result, int[], int[])
	removeDuplicates(Result)
	removeSecond(Result, Result)
	removeDifferent(Result, Result)

Table 4 The new classes extracted by Bavota's approach[14]

Class Extracted Bavota's approach - 1	
Attributes	Methods
sUnion	removeDuplicates(Result)
iUnionType	checkResolved()
iResultLen	compareRecord(Object[], Object[], Result, int)
iOrderLen	compareRecord(Object[], Object[], Result, int)
iGroupLen	removeDifferent(Result, Result)
eCondition	removeSecond(Result, Result)
limitStart	resolve()
limitCount	resolve(TableFilter, boolean)
sIntoTable	sortResult(Result, int[], int[])
tFilter[]	trimResult(Result, int)
UNION	trimResult(Result, int)
	sortResult(Result, int[], int[])
	removeDuplicates(Result)
	removeSecond(Result, Result)
	removeDifferent(Result, Result)
Class Extracted Bavota's approach - 2	
Attributes	Methods
eColumn[]	getResult(int)

	addAggregateRow(Result, Object[], int, int)
	updateAggregateRow(Object[], Object[], int)
	getValue(int)

Table 5 The new classes extracted by Fokaefs' approach

Class Extracted Fokaefs' approach - 1	
Attributes	Methods
iOrderLen	getValue(int)
iGroupLen	getResult(int)
eCondition	compareRecord(Object[], Object[], Result, int)
eColumn[]	checkResolved()
UNION	addAggregateRow(Result, Object[], int, int)
Class Extracted Fokaefs' approach - 2	
Attributes	Methods
tFilter[]	removeDifferent(Result, Result)
iResultLen	removeDuplicates(Result)
iUnionType	removeSecond(Result, Result)
limitCount	resolve()
limitStart	resolve()
sIntoTable	sortResult(Result, int[], int[])
sUnion	trimResult(Result, int)
	updateAggregateRow(Object[], Object[], int)