Huibo Zhao

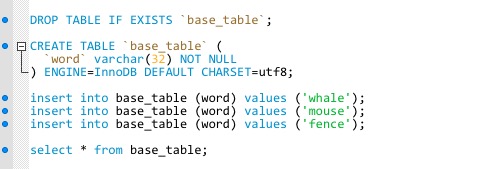
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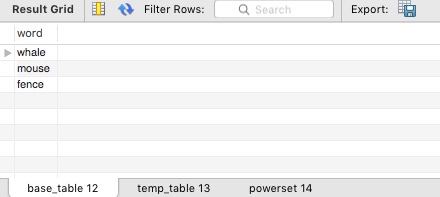
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Nov.25th.2017

Here is the base table:



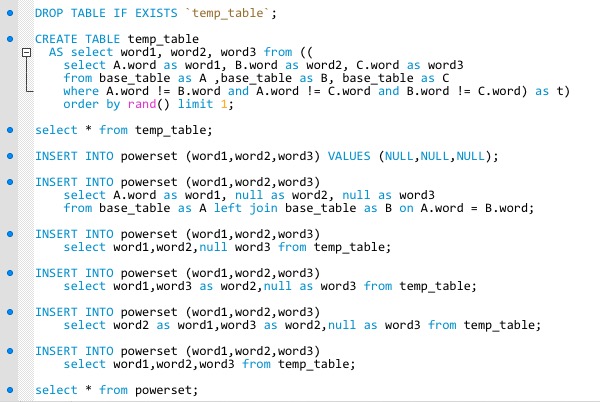


Here is the DDL and final result for powerset table:



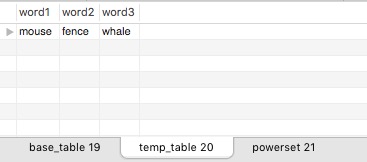


Here is the set of procedures:



First, we create a temp table. The queries will generate six rows of combination of those 3 words. By adding the condition order by rand() limit 1, we randomly select a row as temp\_table. Note that each row is a unique combination of three words, they are just different in orders.

Here is what we have after creating temp\_table:



Then, we add each types of data into the powerset table: all null, one unique word with two null, two unique words combination with one null and three unique word combination.

The all codes for this extra credit assignment is attached below

Appendix:

DROP TABLE IF EXISTS `base\_table`;

CREATE TABLE `base\_table` (

`word` varchar(32) NOT NULL

) ENGINE=InnoDB DEFAULT CHARSET=utf8;

insert into base\_table (word) values ('whale');

insert into base\_table (word) values ('mouse');

insert into base\_table (word) values ('fence');

select \* from base\_table;

DROP TABLE IF EXISTS `powerset`;

CREATE TABLE `powerset` (

`word1` varchar(32),

`word2` varchar(32),

`word3` varchar(32)

) ENGINE=InnoDB DEFAULT CHARSET=utf8;

DROP TABLE IF EXISTS `temp\_table`;

CREATE TABLE temp\_table

AS select word1, word2, word3 from ((

select A.word as word1, B.word as word2, C.word as word3

from base\_table as A ,base\_table as B, base\_table as C

where A.word != B.word and A.word != C.word and B.word != C.word) as t)

order by rand() limit 1;

select \* from temp\_table;

INSERT INTO powerset (word1,word2,word3) VALUES (NULL,NULL,NULL);

INSERT INTO powerset (word1,word2,word3)

select A.word as word1, null as word2, null as word3

from base\_table as A left join base\_table as B on A.word = B.word;

INSERT INTO powerset (word1,word2,word3)

select word1,word2,null word3 from temp\_table;

INSERT INTO powerset (word1,word2,word3)

select word1,word3 as word2,null as word3 from temp\_table;

INSERT INTO powerset (word1,word2,word3)

select word2 as word1,word3 as word2,null as word3 from temp\_table;

INSERT INTO powerset (word1,word2,word3)

select word1,word2,word3 from temp\_table;

select \* from powerset;