/\* Various SELECT to obtain the "median" of a numeric column \*/

-------------------------------------------- **Option 1** ----------------------------------------------------------------

Below needs to be executed in 2 steps

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**SELECT FLOOR(COUNT(\*)/2) FROM payment;** /\***Step1** - find the mid-point\*/

**SELECT \* FROM payment** /\***Step2** - select the record at mid-point\*/

**ORDER BY amount**

**LIMIT 1 OFFSET 4;**  /\*Substitute result of step1 for the number 4\*/

-------------------------------------------- **Option 2** ----------------------------------------------------------------

Join the table to itself

Select where p1.amount >= p2.amount (should give you 1/2 the joined table)

Group by p1.amount (this will sub-total the number of p1.amount)

Order by p1.amount (this will rank the p1.amount ascending)

Select amount, rank where rank = 1/2 the count (this will give you the middle record

*Example:*

If amounts are = 5,6,7,8,9

Cartesian prod. = **5-5,5-6,5-7,5-8,5-9** 6-5,6-6,6-7,6-8,6-9 **7-5,7-6,7-7,7-8,7-9** 8-5,8-6,8-7,8-8,8-9 **9-5,9-6,9-7,9-8,9-9**

p1.amt>=p2.amt = 5-5 6-5,6-6 7-5,7-6,7-7 8-5,8-6,8-7,8-8 9-5,9-6,9-7,9-8,9-9

group by amount = 5 6 7 8 9

count(amt) rank = 5 -> 1 6 -> 2 7 -> 3 8 -> 4 9 -> 5

order by amount = 5,6,7,8,9

ceil((count(\*)+1)/2) = 3

select record with rank = 3 -> value 7

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**SELECT amount, rank**

**FROM**

 **(SELECT p1.amount, COUNT(p1.amount) AS rank**

 **FROM payment p1, payment p2**

 **WHERE p1.amount >= p2.amount**

 **GROUP BY p1.amount**

 **ORDER BY p1.amount) p3**

**WHERE rank = (SELECT CEIL((COUNT(\*)+1)/2) FROM payment)**

-------------------------------------------- **Option 3** ----------------------------------------------------------------

Create a stored procedure as follows:

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**DROP PROCEDURE median;**

**CREATE PROCEDURE median()**

**BEGIN**

 **SELECT FLOOR(COUNT(\*)/2) INTO @offset FROM payment;** /\*Substitute table name\*/

**#**

 **PREPARE MedianStmt FROM**

 **"SELECT \* FROM payment** /\*Substitute table name \*/

 **ORDER BY amount** /\*Substitute column name\*/

 **LIMIT ?,1";**

**#**

 **EXECUTE MedianStmt USING @offset;**

**#**

 **DEALLOCATE PREPARE MedianStmt;**

**END;**

**CALL median();** /\* Call the procedure \*/