

## BI / read / 1

BI 1	query	BI / read / 1									
BI 2	title	Posting summary									
BI 3	pattern	<table><tr><td colspan="2">message: Message</td></tr><tr><td colspan="2">creationDate &lt; \$datetime</td></tr><tr><td>length</td><td>year(creationDate)</td></tr></table>				message: Message		creationDate < \$datetime		length	year(creationDate)
message: Message											
creationDate < \$datetime											
length						year(creationDate)					
BI 4											
BI 5											
BI 6											
BI 7	desc.	Given a datetime, find all Messages created before that moment. Group them by a 3-level grouping:									
BI 8		1. by year of creation									
BI 9		2. for each year, group into Message types: is Comment or not									
BI 10		3. for each year-type group, split into four groups based on length of their content									
BI 11		• 0: $0 \leq \text{length} < 40$ (short)									
BI 12		• 1: $40 \leq \text{length} < 80$ (one liner)									
BI 13		• 2: $80 \leq \text{length} < 160$ (tweet)									
BI 14		• 3: $160 \leq \text{length}$ (long)									
BI 15											
BI 16											
BI 17	params	1	datetime	DateTime	For later microbatches, later datetime parameters are selected keep the variance low (<0.5%)						
BI 18											
BI 19	result	1	year	32-bit Integer	R	year(message.creationDate)					
		2	isComment	Boolean	M	True for Comments, False for Posts					
		3	lengthCategory	32-bit Integer	C	0 for short, 1 for one-liner, 2 for tweet, 3 for long					
		4	messageCount	32-bit Integer	A	Total number of Messages in that group					
		5	averageMessageLength	32-bit Float	A	Average length of the Message content in that group					
		6	sumMessageLength	32-bit Integer	A	Sum of all Message content lengths					
		7	percentageOfMessages	32-bit Float	A	Number of Messages in group as a percentage of all messages created before the given date					
BI 20	sort	1	year	↓							
		2	isComment	↑	False < True, i.e. Posts come first and Comments second						
		3	lengthCategory	↑	order based on the lengthCategory value						
	limit	n/a									
	CPs	1.2, 3.2, 4.1, 4.2, 8.5									