

SQL Query

```
DECLARE @stream_date_i date = '2017-01-01';
DECLARE @stream_date_f date = '2017-01-31';
DECLARE @rank_limit int=20;

SELECT ss.video_rank, vi.title, ss.video_streams,ss.strDate, su.id, su.firstname ,
su.lastname
FROM
(
    SELECT subscriber_id, video_id, COUNT(video_id) video_streams ,
    CONCAT(DATEPART(month, streaming_date) , '/', DATEPART(year, streaming_date))as strDate,
    ROW_NUMBER()OVER(PARTITION BY subscriber_id ORDER BY subscriber_id,COUNT(video_id) desc)
as video_rank
    FROM tvsSubscribersStreaming
    WHERE streaming_date between @stream_date_i and @stream_date_f
    GROUP BY subscriber_id,video_id,CONCAT(DATEPART(month, streaming_date) , '/',
DATEPART(year, streaming_date))
) AS ss
INNER JOIN tvssubscribers su
    ON ss.subscriber_id = su.id
INNER JOIN tvsvideos vi
    ON ss.video_id = vi.id
WHERE video_rank<=@rank_limit
ORDER BY ss.subscriber_id,video_rank
```

Algorithm

Note : expiration_date = invoice_date + given_days

```
Function sendCancellationNotice(read invoices_subscribers_List){
    for each invoices_subscribers{
        if invoice expiration_date <=current_date{
            add to cancellation notice{
                insert information into tvsSubscribersCancellations
            }
        }
        else{
            move to next invoices_subscribers
        }
    }
}
```