Parsing out Thesis call numbers

The following query can be used to parse out "Thesis" call numbers into the major components (LC Class, LC Class Number, First Cutter, Second Cutter and Year). Thesis call numbers can be very variable, so the query does not work for everything!

Most problems appear to be in getting the second cutter - any suggestions for improvement are gratefully accepted! - JL 11-30-23

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-- 11-22-23: This query parses out thesis call numbers into LC class, Lc class number, internal year, first cutter and second cutter
-- Does not work well with malformed call numbers or very unusual thesis call number schemes
-- 11-30-23: updated query to work with Law theses and sometimes for Thesis Film
-- 1. Select thesis holdings records where "Thesis" is part of the call number or call number prefix
WITH parameters AS
(SELECT
'%Mann%'::VARCHAR AS library_name_filter
),
recs AS (
SELECT
        II.library_name,
        he.permanent_location_name,
        he.holdings_hrid,
        he.discovery_suppress,
        he.call_number_prefix,
        he.call_number
FROM folio_reporting.holdings_ext AS he
        LEFT JOIN folio_reporting.locations_libraries AS II
        ON he.permanent_location_id = II.location_id
WHERE (he.call_number ILIKE '%thesis%' OR he.call_number_prefix ILIKE '%thesis%')
        AND (he.discovery_suppress = 'False' OR he.discovery_suppress IS NULL)
        AND II.library_name ILIKE (SELECT library_name_filter FROM parameters)
-- 2. Apply parsing formulas to call number to get LC class, LC class number, internal year, first cutter and second cutter
SELECT
        recs.library_name,
        recs.permanent_location_name,
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recs.holdings_hrid,

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recs.call_number_prefix,
                      recs.call_number,
-- get LC class
                      CASE
                                            WHEN recs.call_number ILIKE '%film%' THEN ' - '
                                            WHEN recs.call_number ILIKE '%thesis%' THEN SUBSTRING (recs.call_number, '\s[A-Za-z]{1,3}')
                                            ELSE SUBSTRING (recs.call_number, '[A-Za-z]{1,3}') END AS Ic_class,
-- get LC class number
                     CASE WHEN recs.call_number ILIKE '%film%' THEN NULL
                      ELSE
                                           (TRIM (trailing '.' FROM
                                                                 CASE
                                                                                        WHEN SUBSTRING (recs.call_number,1,1) in ('1','2') THEN NULL
                                                                                        WHEN SUBSTRING (recs.call_number,2,1) = ' 'THEN NULL
                                                                                        END))
                      END AS lc_class_number,
-- get internal year
                                            TRIM (CASE WHEN SUBSTRING (recs.call_number,1,1) IN ('1','2')
                                                                 THEN SUBSTRING (recs.call_number,1,4)
                                                                  ELSE SUBSTRING (recs.call_number, '\s\d{4}\s{0,1}')
                                                                  END) AS internal_year,
-- get first cutter
                     CASE WHEN recs.library_name NOT LIKE 'Law%'
                      \label{thm:linear} \textbf{THEN SUBSTRING (recs.call\_number, $$\d\s(0,1)([A-Z]\d(1,))'$)}
                      END AS first_cutter,
-- get second cutter
                     CASE
                                            WHEN SUBSTRING (recs.call_number, '\.\s{0,1}[A-Z]\d{1,}') IS NULL
                      OR
                                            TRIM (SUBSTRING (recs.call_number, \s\{0,1\}[A-Z]\d\{1,\}')) = TRIM (SUBSTRING (recs.call_number, \s\{1\}\d\{1,\}[a-z]\d\{1,\}')) = TRIM (SUBSTRING (recs.call_number, \s\{1\}\d\{1,\}[a-z]\d\{1,\}')) = TRIM (SUBSTRING (recs.call_number, \s\{1\}\d\{1,\}[a-z]\d\{1,\}')) = TRIM (SUBSTRING (recs.call_number, \s\{1,\}[a-z]\d\{1,\}')) = TRIM (SUBSTRING (recs.call_number, \s\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}')) = TRIM (SUBSTRING (recs.call_number, \s\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[a-z]\d\{1,\}[
                      THEN NULL
                      ELSE SUBSTRING (recs.call_number, '\s{1}[A-Z]{1}\d{1,}x{0,}a{0,}b{0,}') END AS second_cutter
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ORDER BY
        permanent_location_name,
        -- then order by LC class
        lc_class,
        -- then order by Ic class number (using the entire CASE WHEN statement above)
        CASE
                 WHEN SUBSTRING (recs.call_number,1,1) in ('1','2') THEN NULL
                WHEN SUBSTRING (recs.call_number,2,1) = ' 'THEN NULL
                 ELSE SUBSTRING (recs.call_number, '\d{1,4}\.{0,}\d{0,}')
        END::NUMERIC,
-- then order by internal year (using the entire CASE WHEN statement)
        TRIM (CASE WHEN substring (recs.call_number,1,1) IN ('1','2')
                 THEN substring (recs.call_number,1,4)
                 ELSE SUBSTRING (recs.call_number, '\s\d{4}\s{0,1}')
                 END)::INTEGER,
-- then order by first cutter, then second cutter, then the whole call number in case the cutters are blank
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first_cutter,
second_cutter,
recs.call_number
```