



Using IN:() to Code Character Comparisons with Criteria Having Different Lengths

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Task: Select records where you have:

- multiple selection criteria
- criteria have different lengths

Example: records starting with these ZIP codes

'010' '011' '012'

'0130' '0131' '0133' '0134' '0138'

Also: proc codes, diag codes, names, etc.

Code using standard comparison operators:

If `substr(ZIP_code, 1, 3) = '010'` **or**
`substr(ZIP_code, 1, 4) = '0130'` ... ;

or

Programmatically truncate
the longer value

`zip_3 = substr(ZIP_code, 1, 3) ;`
`length zip_4 $ 4 ; zip_4 = ZIP_code ;`

if `Zip_3 in('010', '011', '012')` **or**
`Zip_4 in('0130', '0131', '0133', '0134, '0138') ;`

To make the comparison, the two terms have to have the same length, so the shorter value is padded with blanks to the length of the longer value

if `ZIP_code = '010'`; *compares as* `'01034' = '010bb'`

A more elegant way:

- **Use the IN() operator**
 - **To handle criteria with different lengths**

- **Use the : operator modifier**
 - **Instead of SUBSTR() or LENGTH**

Using the IN() operator

```
if language in( 'SAS', 'C' );
```

IN() automatically handles different length values so criteria with different length can be coded in the same IN function. [undocumented]

Using the IN() operator with the : modifier

```
if ZIP_code in:( '010', '011', '012',
                '0130', '0131', '0133', '0134', '0138' );
```

ZIP_code =: '010' *compares as* '010' = '010'

ZIP_code in:('0130') *compares as* '0130' = '0130'

The : modifier truncates the length of the longer value to the same length as the shorter value

Remember:

ZIP_code = '010') *compares as* '010**bb**' = '010**xx**'

The colon modifier can be used with any appropriate comparison operator

```
if ZIP_code in: ( '010', '011', '012',
                 '0130', '0131', '0133', '0134', '0138' );
```

```
if '010' <=: ZIP_code LE: '0131' or
    ZIP_code in: ( '0133', '0134', '0138' );
```

```
where '010' <=: ZIP_code LE: '0131' or
      ZIP_code in: ( '0133', '0134', '0138' );
```

Applicability

- This technique works only for character comparisons in DATA and PROC step code.
- It does not work for numeric comparisons.
- It does not work in PROC SQL.
- In PROC SQL you would use one of the PROC SQL truncated string comparison operators such as EQT, GTT, GET, LTT and LET.
- You can also use the LIKE operator in DATA and PROC step code:

```
proc means data= sashelp.class;  
where name like 'Ro%';  
run;
```



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