Introduction

- Flip-flopping is the process of changing the orientation from “stacked,” “vertical,” or “tall and skinny to “flat,” “wide,” or “short and fat data.
- There are a lot of instances in clinical industry where we have to check for consecutive time points for e.g. consecutive missed visits, consecutive abnormalities, consecutive 95th percentile results etc. PROC TRANSPOSE procedure is flexible enough to generate an appropriate structure of data to identify such instances.
- Industry starters are not very familiar or may find difficulty working with RETAIN/ FIRST / LAST. concepts. PROC TRANSPOSE on the other hand is simple procedure to code and also allows to check the data horizontally.

ILLUSTRATION

Let us have a look at an example where PROC TRANSPOSE will be used to obtain results than just transposing the data. Consider we have to check consecutive missed time points (numeric lab results) in the LABORATORY ANALYSES data.

We will be in the same dilemma as Flintstone is. Then the very ancient method of Tally marks Clicks!!

<table>
<thead>
<tr>
<th>#</th>
<th>PATID</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>V4</th>
<th>V6</th>
<th>V10</th>
<th>V14</th>
<th>V19</th>
<th>CAT1</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2201</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
<td>10411</td>
</tr>
</tbody>
</table>

• The same concept of conventional Tally marks is applied in deriving the results. Vertical data will require lot of processing.
• Alternatively PROC TRANSPOSE will convert the data in to flat structure and we can obtain the desired results by checking the data at just one record.
• LAB data is transposed using PROC TRANSPOSE and the missed results are flagged as ‘ 1‘.
• All the consecutive ‘1’ are then collated and checked

Advantages

- Easy to code
- Simple to debug
- The output can be manually crosschecked as the data is flat and the number of observations are few to check.
- Few lines of code.

Conclusion

- PROC TRANSPOSE is a very useful and handy procedure that should be widely used in day-to day SAS® programming. It not only makes data wide to narrow or narrow to wide but also can be smartly used for other purposes taking into account the wide options the procedure provides.

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