Normalization Process

1. **Calculation of Raw Marks:**
    a. Post Exams, Correct answer key is uploaded in the system and raw Marks of candidates is calculated.
2. **Scaling of Marks:**
    a. For the candidate, If any question is dropped in a particular batch , Candidates' marks will be scaled using the below mentioned formula:

$$Scaled\ Raw\ Marks\ = \frac{Raw\ Marks\ x\ (Max\ Marks)}{Total\ Marks - Marks\ of\ Dropped\ Questions}$$

3. **Selection of Base Batch:**
    a. The Average Marks(ScaledMarks/raw marks) and Standard Deviation is calculated for each batch in which the exam is conducted.
    b. The Batch with highest Average of Marks is selected as the Base Batch.
    c. All other batches have been normalized against the Base Batch.
4. **Normalization of Marks:**
    a. Based on the Average Marks and Standard Deviation of candidate's batch, Average Marks and Standard Deviation of Base Batch, Scaled Marks of the candidate the formula used to normalize the Marks is as mentioned below:

$$X_n = \frac{(S_b)}{(S_c)} x\left(X - X_{avg}\right) + Y_{avg}$$

Where,

$X_n = Normalized\ Mark\ of\ \ candidate$
$S_b = Standard\ Deviation\ of\ Base\ Batch$
$S_c = Standard\ Deviation\ of\ candidate's\ Batch$
$X = Scaled\ mark\ of\ candidate$
$X_{avg} = Average\ mark\ of candidate's\ batch$
$Y_{avg} = Average\ mark\ Base\ batch$