Workflow of Algorithm

1. Create Objective Comparison Matrix using the given scores.
   1. Ones fill the main diagonal.

\*(Row *i* and column *i* should be the same objective. This should be true for setting up all matrices.)

* 1. Fill in the matrix using the pairwise differences to calculate the pairwise scores. See the **Calculate Pairwise Score** table on the **example1** sheet for how to calculate the pairwise scores that should fill the matrix based on the given scores.

\*When calculating differences, column scores should be subtracted from row scores. For example, if you are calculating the score for entry [1,2], the value of the second (*j*th) skill should be subtracted from the value of the first (*i*th) skill.

1. Calculate the Normalized version of the Objective Comparison Matrix.
   1. Find the **column** sums.
   2. Divide each entry by its column sum. (see the **Anorm** table on the **objectives** sheet)
2. Calculate the Objective Weights.
   1. Find the **row** sums and divide each row sum by the number of columns in the matrix.
   2. The resulting row averages are the weights for each objective. These weights should sum to 1.
3. Convert the Caliber scores (in example1 sheet the Caliber scores would be the **Raw Criteria**) based on the **Score Conversion** table.
   1. Note: Scores over 100 should also be assigned to the value 8.
4. Create a Pairwise Comparison Matrix for each Objective.
   1. Follow the same steps as you did to create the Objective Comparison Matrix.
   2. See the light blue tables on the **example1** sheet or the three tables on the left of the **example2\_matrices** sheet for an example of these matrices for each objective.
5. Normalize the Pairwise Comparison Matrices and Calculate Scores for each Associate for each Objective.
   1. Follow the same methods as steps 2 and 3, but for each of the Pairwise Comparison Matrices. (Instead of calling the results weights, for associates we call these results “scores”)
   2. The **unweighted** table on the **example1** sheet is a table comprised of the scores from all three matrices. The **Overall** column in that table will be calculated in the next step.
   3. The **Unweighted Scores** table on the **example2\_matrices** sheet is a larger example of comprised scores from the three Pairwise Comparison Matrices.
6. Find an Overall Score for each associate.
   1. Use the Objective weights that were calculated in step 3, as weights in a weighted sum of the scores calculated in step 6. Do this for each associate.
      1. For each associate, multiply the weight for Objective 1 by their score for that Objective. Repeat for all Objectives. Sum these results. This sum is the overall score for that associate.
   2. The sum of the Overall Scores should be 1.
7. Order the associates by their Overall Score (highest to lowest).
8. Return the top *n* associate names from the ordered list, where *n* is the specified number to return.