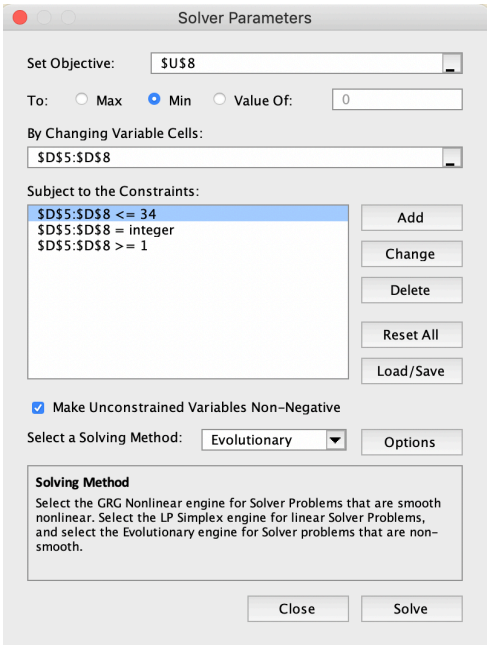
1. Organizing factors in columns C to I
    - Teen Birth Rate per 1,000 Females 15-19
    - Percent of Births Delivered at Term
    - Percent of Babies Born with a Satisfactory Birth Weight
    - Percent of Births Where Mother Received Early Prenatal Care
    - Healthy Food Availability Index
    - Life Expectancy
    - Infant Mortality
2. Choosing clusters
    - Compute average teen birth rate in C1 with formula =AVERAGE(C11:C44)
    - Compute the standard deviation of teen birth rate in C2 with formula =STDEV(C11:C44)
    - Copy these formulas to D1:I2 to compute the mean and standard deviation for the rest of the factors
    - In J11, compute the standardized teen birth rate (the z-score) with the formula =STANDARDIZE(C11,C$1,C$2)
    - Copy this formula from J11 to P44 to compute z-scores for all neighborhoods
3. Setting up the Solver model for cluster analysis
    - Enter trial values (integers between 1 to 34) in D5:D8 for cluster anchors
    - Set C5:C8 as neighborhood names that the trial values represent. In C5, look up neighborhood name of the first cluster anchor with formula =VLOOKUP(($D5,$A$10:$P$44,2)
    - Copy this formula to C6:C8 to identify the names of the three other neighborhoods
    - Identify the z-score for teen birth rate in the first chosen neighborhood using the formula =VLOOKUP($D5,$A$10:$P$44,10)
    - Identify the z-scores for each of the four selected neighborhoods by copying this formula from E5 to E5:K8
4. Computing the squared distance
    - Compute the squared distance from each neighborhood to each of the four selected cluster candidates
        - Compute the distance from each neighborhood to the first cluster candidate using the formula =SUMXMY2($E$5:$K$5,J11:P11) in Q11 and copy this formula to Q11:Q44
        - Compute the distance from each neighborhood to the second cluster candidate using the formula =SUMXMY2($E$6:$K$6,J11:P11) in R11 and copy this formula to R11:R44
        - Compute the distance from each neighborhood to the third cluster candidate using the formula =SUMXMY2($E$7:$K$7,J11:P11) in S11 and copy this formula to S11:S44
        - Compute the distance from each neighborhood to the fourth cluster candidate using the formula =SUMXMY2($E$8:$K$8,J11:P11) in T11 and copy this formula to T11:T44
    - Compute the smallest distance from each city to the four cluster anchor by using the formula =MIN(Q11:T11) in cell U11 and copying it to U11:U44

- Compute the sum of squared distances of all cities using formula = SUM(U11:U44) in U8
- Name column V “assigned to,” determine which cluster each city is assigned to by using formula =MATCH(U11,Q11:T11,0) in V11, and copy this formula to V11:V44

5. Using the Solver window to find the optimal cluster anchors for the four clusters as shown below



6. Rearranging data
   - Create a separate sheet named “Sorted” with the same data we have and sort the “Assigned to” column from small to large
   - Color code the different categories we sorted out