- Triangles are always convex.

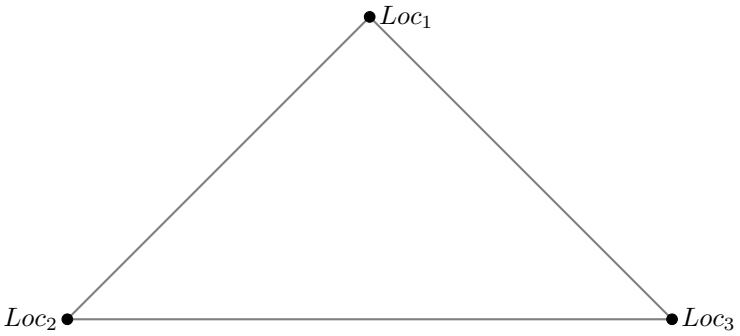

Figure 1:

- Suppose we would like to predict the TP(or TN) value for one of the locations (say Loc_1) using the measured TP (or TN) values of the other 2 locations.
- Suppose $dist(Loc_1, Loc_2) = d_{12}$, $dist(Loc_1, Loc_3) = d_{13}$, $dist(Loc_3, Loc_2) = d_{32}$.
- Suppose the measured TP values of Loc_2 and Loc_3 are TP_2 and TP_3.
- Predicted TP value for Loc_1 is $c_2TP_2 + c_3TP_3$.
- Suggestion: $c_2 = \frac{\frac{1}{d_{12}}}{\frac{1}{d_{12}}+\frac{1}{d_{13}}}$; $c_3 = \frac{\frac{1}{d_{13}}}{\frac{1}{d_{12}}+\frac{1}{d_{13}}}$

Now, what if we want to use more than 2 locations to predict a value?

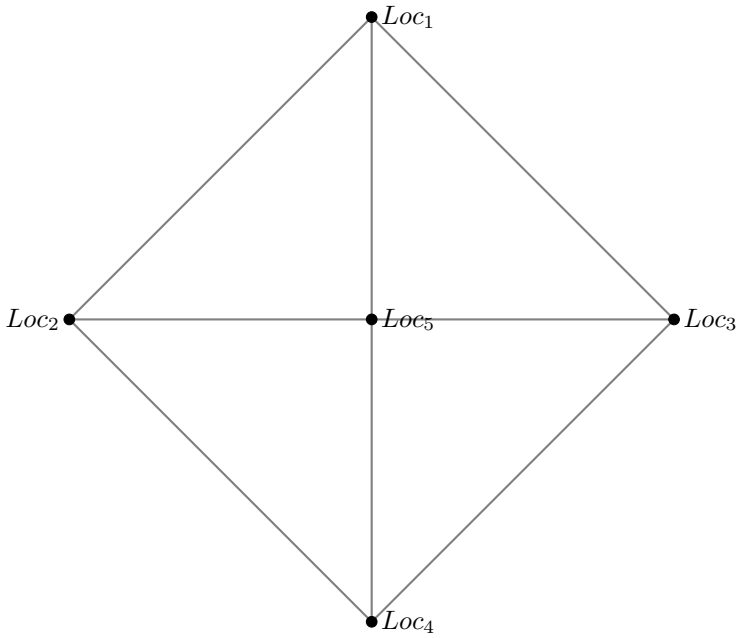

Figure 2:

- Suppose we would like to predict the TP(or TN) value for one of the locations (say Loc_5) using the measured TP (or TN) values of the other 4 locations.
- Use the above technique to get four different predictions: That is:

  $$TP_{12}, \quad TP_{13}, \quad TP_{24}, \quad TP_{34}$$

  would be the four predictions based of the pairs

  $$Loc_1 - Loc_2, \quad Loc_1 - Loc_3, \quad Loc_2 - Loc_4, \quad Loc_3 - Loc_4$$

  respectively.
- Suggestion: The average of the four different predictions could be the prediction we could use for Loc_5.