How many columns in this sheet are involved in final calculations? Do all need to be entered, or do some data points rely on some data and others on different data?

-entered “time elapsed” data points from Processed data only- nothing changed

-”True-Efficiency” calculated from data entered in “Time Elapsed” and “Distance” only

-**True\_Efficiency formula: =IF(J2="Failure","",I2/Y2) for column/row Z2**

**-If status says failure, then calculate nothing; otherwise, divide distance by optimal distance (within same row/trial dependent)**

-formula with successive numbers & parallel form; I3/Y3, I4/Y4, etc

-If this… then this… statement similar to coding with python

-Y2 = “optimal distance”

-calculating difference between the actual time it took each trial and the distance travelled to optimal distance to find the efficiency of the participant in each trial

-efficiency with this data entered is very low because optimal distance is much greater compared to data points i.e. the expectations were much higher

-”success” column contributes to if this then this formula- “failure” gives no efficiency value

-formula for **J8: =IF(J8="Failure",J8,IF(L8="",W8,L8))**

**-If status says “failure”, then it is failure; BUT if it says failure AND initial strategy coding says nothing, then it is nothing; otherwise, it is what is written in column L (in this case it is learned)**

**-**Length formula Row 4: **=IF(M4>0,M4/R4,"")**

**-If the total steps, which is learned steps + reversed learned steps + open steps, is greater than 0, then divide total steps by Learned Distance; otherwise, write nothing**

**-**similar formulas for T-V

-Mechanical Coding: **=IF(T4="","",IF(AND(T4<=0.84,U4<0.7,V4<0.7),"shortcut liberal",IF(U4>0.7,"learned liberal",IF(V4>0.7,"rev learned liberal",IF(OR(AND(T4>=0.84,U4<0.7),AND(T4>=0.84,V4<0.7)),"uncodable","??????")))))**

**-If length says nothing, then it is nothing; But if length is less than or equal to 0.84 AND learned ratio is less than 0.7 AND Rev learn ratio is less than 0.7, then write “shortcut liberal”; But if Learned Ratio is greater than 0.7, write “learned liberal”; If Rev learned ratio is greater than 0.7, write “rev learned liberal”; But if either scenario (1= length greater than or equal to 0.84 and Learn Ratio less than 0.7; 2= length greater than or equal to 0.84 and Rev learn ratio is less than 0.7) is true, but not both, then write “uncodable”, otherwise write “??????”**

**-**Optimal distance: **=LOOKUP(G3,Optimal!$C$2:$C$49,Optimal!$G$2:$G$49)**

**-Reference the value in TrialID column G….**

**-**Is “optimal!” a named range/term?

-$ fixes columns so formula can be copied without changing values in desired cell references