%% Code to compute entropy and purity

clear all

clc

P = [3 5 40 506 96 27; 4 7 280 29 39 2;1 1 1 7 4 671;10 162 3 119 73 2; 331 22 5 70 13 23; 5 358 12 212 48 13];

for i = 1:6

Entropy(i) = sum(-P(i,:)/sum(P(i,:)) .\* log(P(i,:)/sum(P(i,:)))/log(2));

Purity(i) = max(P(i,:))/sum(P(i,:));

end

TotalP = sum(P,1);

WholeEntropy = 0;

WholePurity = 0;

for i = 1:6

WholeEntropy = WholeEntropy + ((sum(P(i,:)))/(sum(TotalP)))\*Entropy(i);

WholePurity = WholePurity + ((sum(P(i,:)))/(sum(TotalP)))\*Purity(i);

End

%%%%%%%%%%

**Output format:**

Your code should output a Results.csv file which will have one row with 6 numbers in the following order

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SSE for Kmeans | SSE for DBSCAN | Entropy for Kmeans | Entropy for DBSCAN | Purity for K means | Purity for DBSCAN |
|  |  |  |  |  |  |

Make a “main.py” code that I can run to generate the Results.csv file. You can write other .py files. Whatever files are needed to run your code put them in a zip file and upload in Canvas.