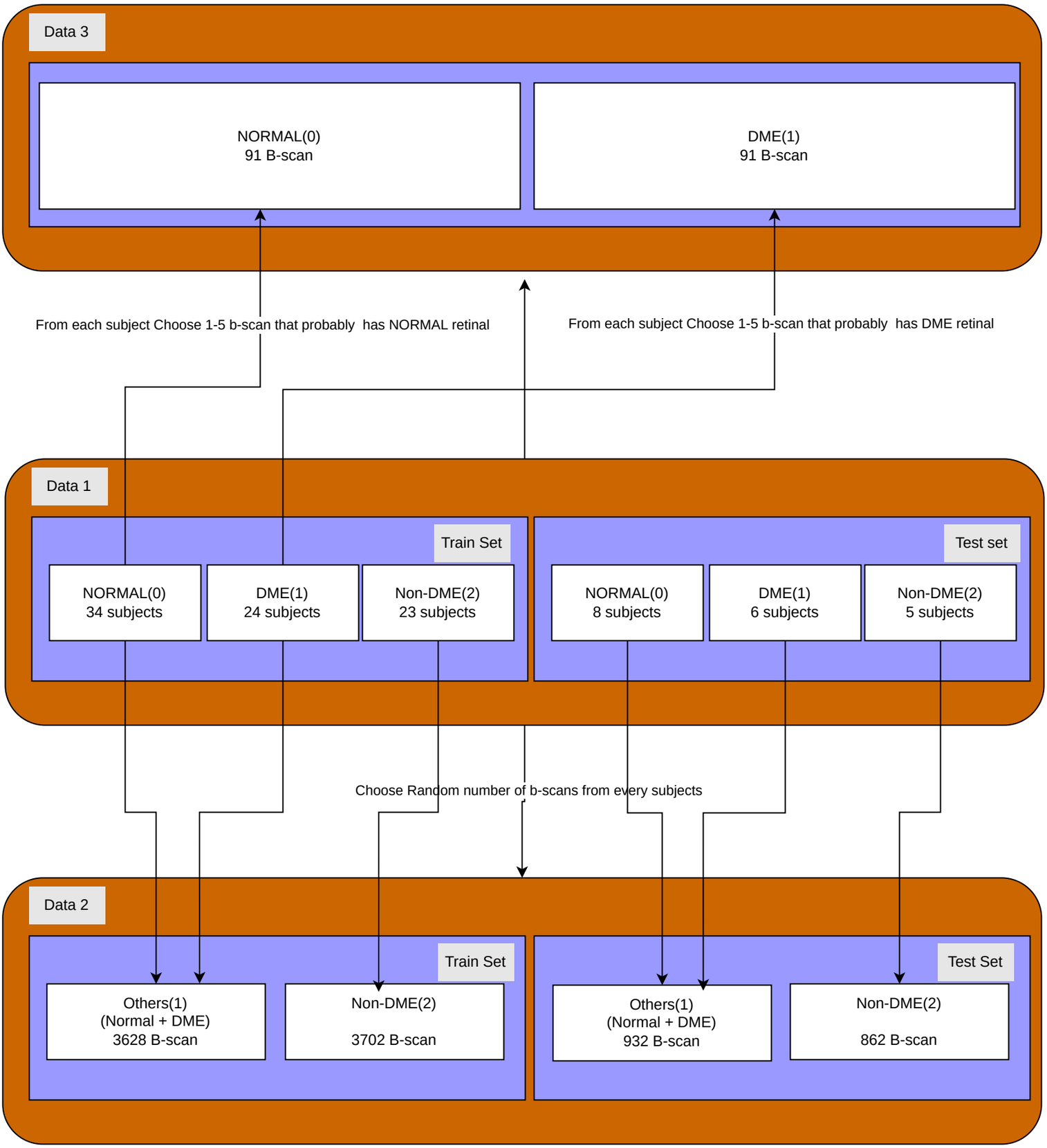
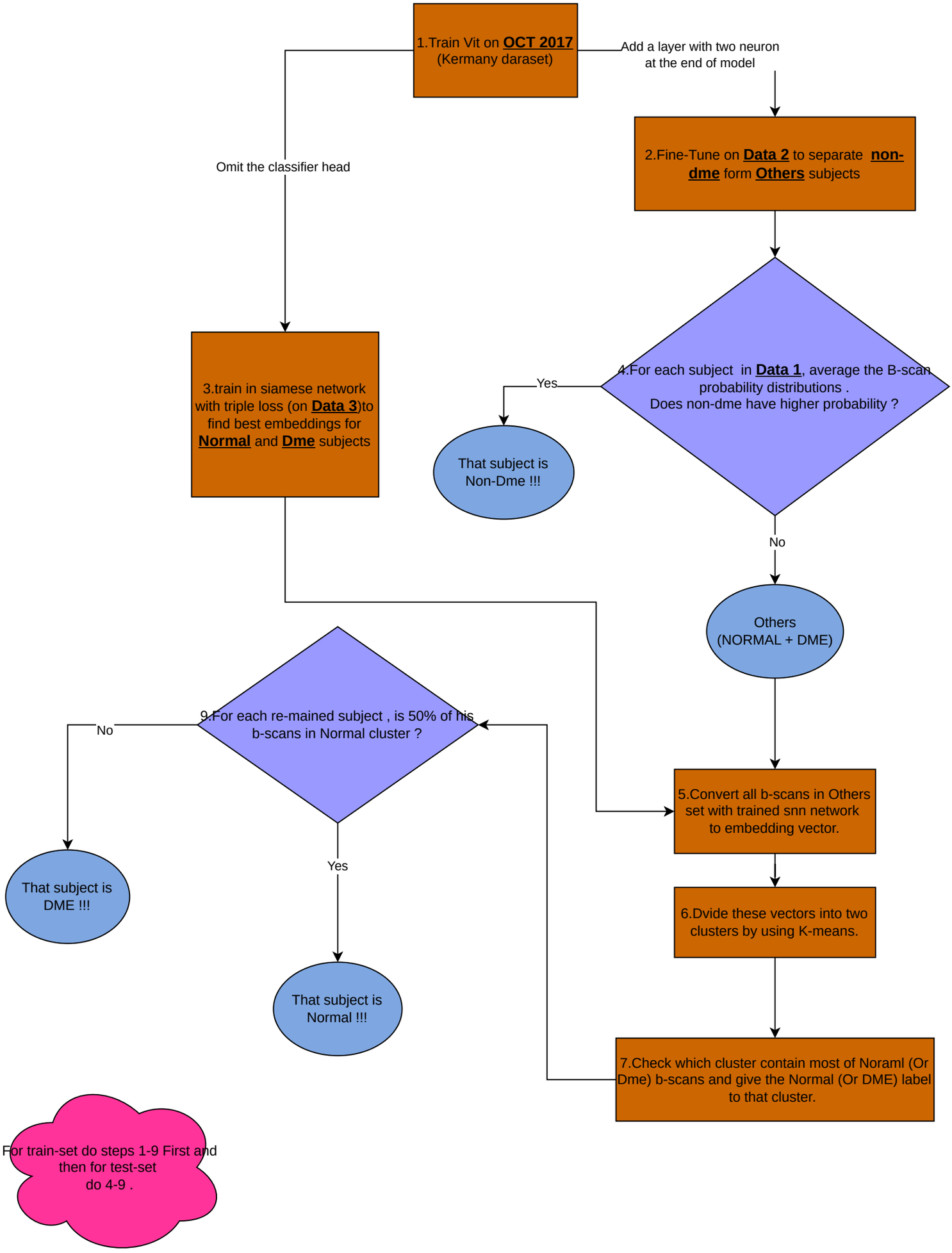

Data 3
NORMAL(0)
91 B-scan
DME(1)
91 B-scan
From each subject Choose 1-5 b-scan that probably has NORMAL retinal
From each subject Choose 1-5 b-scan that probably has DME retinal
Data 1
Train Set
Test set
NORMAL(0)
34 subjects
DME(1)
24 subjects
Non-DME(2)
23 subjects
NORMAL(0)
8 subjects
DME(1)
6 subjects
Non-DME(2)
5 subjects
Choose Random number of b-scans from every subjects
Data 2
Train Set
Test Set
Others(1)
(Normal + DME)
3628 B-scan
Non-DME(2)
3702 B-scan
Others(1)
(Normal + DME)
932 B-scan
Non-DME(2)
862 B-scan


1.Train Vit on OCT 2017 (Kermany daraset)
Add a layer with two neuron at the end of model
Omit the classifier head
2.Fine-Tune on Data 2 to separate non-dme form Others subjects
3.train in siamese network with triple loss (on Data 3)to find best embeddings for Normal and Dme subjects
4.For each subject in Data 1, average the B-scan probability distributions . Does non-dme have higher probability ?
Yes
That subject is Non-Dme !!!
No
Others (NORMAL + DME)
5.Convert all b-scans in Others set with trained snn network to embedding vector.
6.Dvide these vectors into two clusters by using K-means.
7.Check which cluster contain most of Noraml (Or Dme) b-scans and give the Normal (Or DME) label to that cluster.
9.For each re-mained subject , is 50% of his b-scans in Normal cluster ?
No
That subject is DME !!!
Yes
That subject is Normal !!!
For train-set do steps 1-9 First and then for test-set do 4-9 .