Question1(+2 pts): Visualize distribution of features accross different classes.
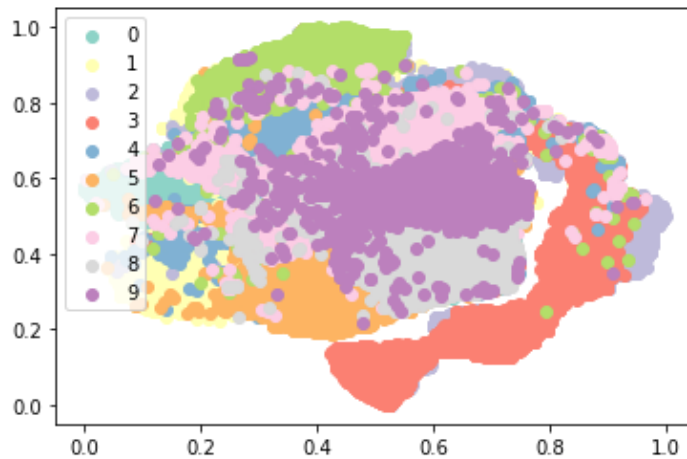
1. Please make t-SNE plot the distribution of early, middle, final stage.

a. Evaluate the model on training dataset, collect features and labels

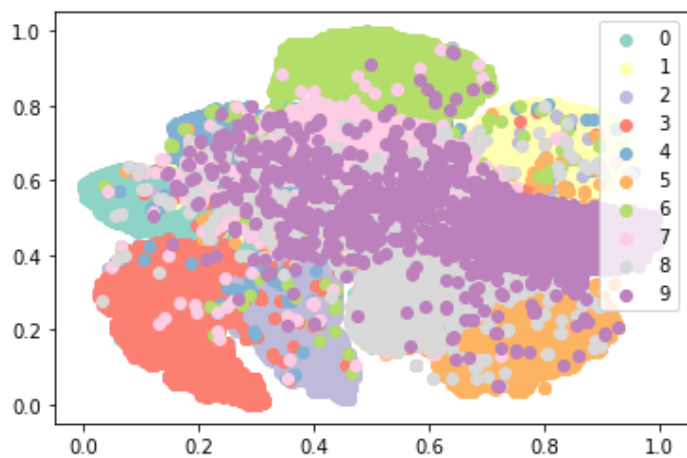b. Make 3 t-SNE plots of the following training phase:

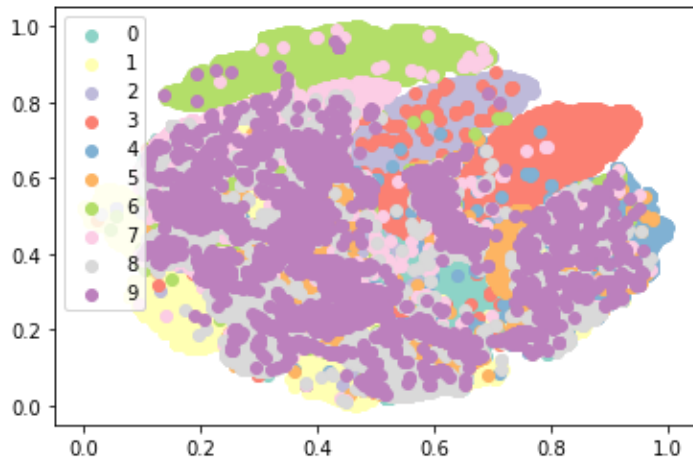i. early stage

cv2.Canny(np.array(x), 170, 300) epochs 2000

ii. middle stage

cv2.Canny(np.array(x), 170, 300) epoch 5000

iii. final stage

cv2.Canny(np.array(x), 220, 250)) epoch 5000

2. Explain and analyze the distribution of features of three stages.

a. Hint: Is a good feature extractor for classification task? Why or Why not?

middle 比 early 分得更開了(所占面積變大)，表示分得更好

early 的 kaggle 分數為 0.61063，middle 為 0.77084

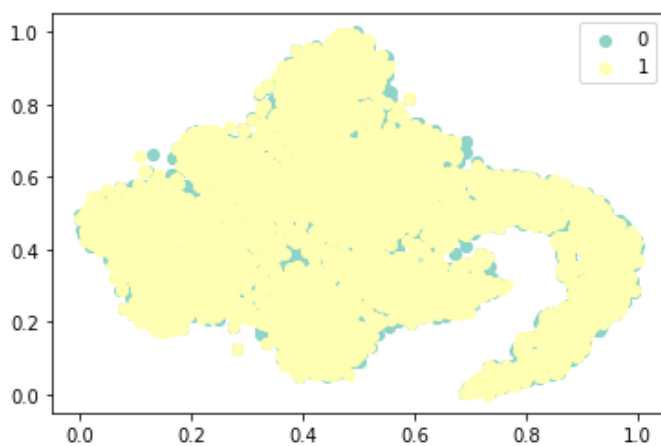final 的分佈雖然粉色、紫色、灰色、橘色都疊在一起，但 kaggle 分數反而更高 (0.79546)，也許是二維無法表示出他們的差別

Quesion2 (+2pts): Visualize distribution of features across different domains.

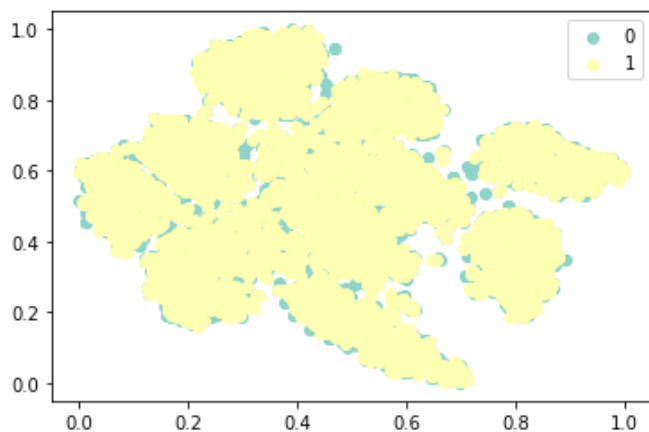1. Please plot the distribution of early, middle, final stage.

a. Evaluate the model on source dataset and target dataset, collect feature and labels

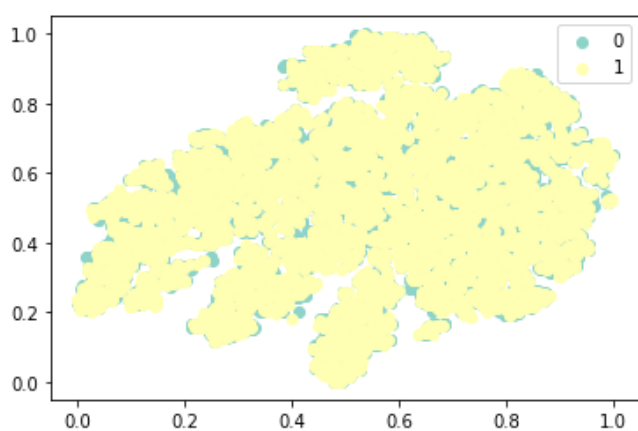b. Make 3 plots of the following training phase:

i. early stage

ii. middle stage

iii. final stage

2. Explain and analyze the distribution of features of three training phases.

a. Hint: Is a good feature extractor for domain adaption task? Why or Why not?

在 early、middle、final 階段，兩 domain 的分布都合在一起，表示從兩 domain 提取出的 feature 分布差不多，是一個好 feature extractor

(因為此題我只有從 source 與 target 各拿 5000 張圖，所以形狀 Q1 有些許不同)