1.Environment

https://drive.google.com/file/d/1YsqIO861z4FoSEZE3sRUrhrPRWG_itYk/view?usp=share_link

2. Implement details

1. model architecture:

- In task 1, I choose rersnet18 as my deep learning model, since it is a suitable model for the image recognition. I use pretrained resnet18 to run the train, and also change tht output layer to 10 to fit the ten possible number.
- In task 2, I also choose rersnet18 as my deep learning model , but I change tht output layer to 72 to fit the ten possible number plus 26 character for two image.
- In task 3, I also choose rersnet18 as my deep learning model , but I change tht output layer to 144 to fit the ten possible number plus 26 character for four image.
- In task 2 and task 3, I use one hot label to represent Engilsh character, by making a len of 32 list and make the mapping value to one if the key is found. Meanwhile, I also choose MultiLabelSoftMarginLoss to compute loss between multilabel.
- In all the three dataset, I shrink the value of the img, so that the value is good for the model to train.

3.model weight place

model 1:

https://drive.google.com/file/d/1BiCzUrEwphratxQtIIC6lgLFjmAjDMHH/view?usp=share link

model 2:

https://drive.google.com/file/d/1EGRsZJ54ddOTJ9_CNIFNBb25FeNBVq 1I/view?usp=share link

model 3:

https://drive.google.com/file/d/1FYssG_GBFADS2sr5GoX9T4-WH1FoW 9HG/view?usp=share link

4.screenshot score

