Code explanation:

Link for git repository:

https://tinyurl.com/y2ztvpck

The basic interface is very straightforward.

Mobilenet v2 pretrained model may be located here
https://drive.google.com/file/d/1jlto6HRVD3ipNkAl1lNhDbkBp7HylaqR/view

In the beginning of the code After the naive parser selection there are several globals to control the code.

```
learnOnlyFirst = True  # Learn only first network banchmark
therlist=[38, 70, 151, 281, 300, 327, 389, 398, 488, 578, 668, 758, 845, 936, 958,
1000]  # section to split the data
Lamdada=[20, 1,  1,    1,   1,   1,   1,   1,   1,   1,   1,   1,   1,   1,   1]
#weights for the weighted mean everage
CheckPointName='checkpoint13b.pth.tar'
useSaveCheckPoint=True
LoadModelFromPreTrainedMobilenetv2=False
PreTrainedMobilenetv2='mobilenet_v2.pth.tar'
useparamoptimized=False # freeze most of the model
```

The `learnOnlyFirst` control whether to use splitting layer. When it is set to false you are training all the model including the splitting layer. When it is set to true you are training simple network with same size.

The `therlist` is the selection of the groups parser of the database (controlling which labels will be trained in every path of the split layer.

The `Lamdada` controlling the weighted mean loss when all set to 1 it is simple mean average loss.

When use `useSaveCheckPoint=True` you can continue from selected `CheckPointName`

When use `LoadModelFromPreTrainedMobilenetv2` true (`useSaveCheckPoint=False)` you can init the model with the pretrained mobilenetv2

When use `useparamoptimized=true` it freeze all the parts which are the same in both model and train only the new layers. (relevant when start from pretrained model).

In addition cropped database of imagenet should be set the dataset dir accordingly.

In addition tenserboardX should be added.
This program was tested on windows python 3.6 gpu GTX 1060.