```
In [ ]: # print(f"{len(main_models1.loss)} steps\nStarted @ {start_time}\nSaved @ {end_time}")    ## to examine whether the loss attribute is updated in
        dir_path=pathlib.Path(os.getcwd(),
                               'Results',
                               'Best Models Saved',
                               'minmax_ind_0.01lr_300steps_MSE_1w')
        dir_path.mkdir()
        path1=pathlib.Path(dir_path,'pop1.pt')
        path2=pathlib.Path(dir_path,'pop2.pt')
        models1.save_entire_models(path=path1)
        models2.save_entire_models(path=path2)
```

- input to find cluster: `property type`, `property value`, `deductible`, `PML`

- input to find price: `XL_l_bound`, `XL_U_bound`, `premium`

$$\text{XL lower bound as } \% \text{ of PML} = \min\left(\frac{\text{XL lower bound}}{\text{PML}}, 1\right) \tag{40}$$

$$\text{Net Premium} = \max\left(\frac{\text{XL upper bound}}{PML}, 1\right) * \text{PML} \tag{41}$$

$$\text{LER} = \text{MMBBEFD}\left(\text{XL lower bound as } \% \text{ of PML}\right) \tag{42}$$

$$\text{Layer Premium} = (1 - \text{LER}) * \text{Net Premium} \tag{43}$$