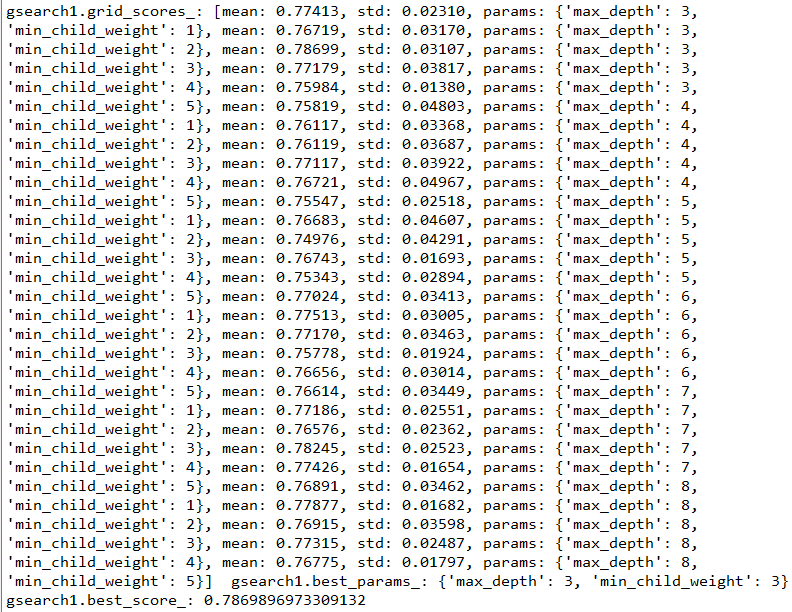
# 先对 max\_depth，min\_child\_weight两组参数进行调参

# 最优 max\_depth=3， min\_child\_weight=3，得分：0.78699

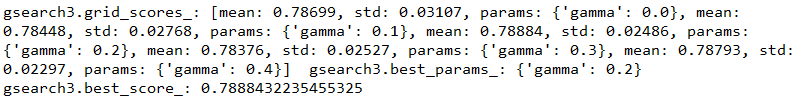
# 次优 max\_depth=7， min\_child\_weight=4，得分：0.78245



# 在 max\_depth=3，min\_child\_weight=3情况下调参 gamma

# 测试结果 最优：gamma=0.2

# 次优：gamma=0.4



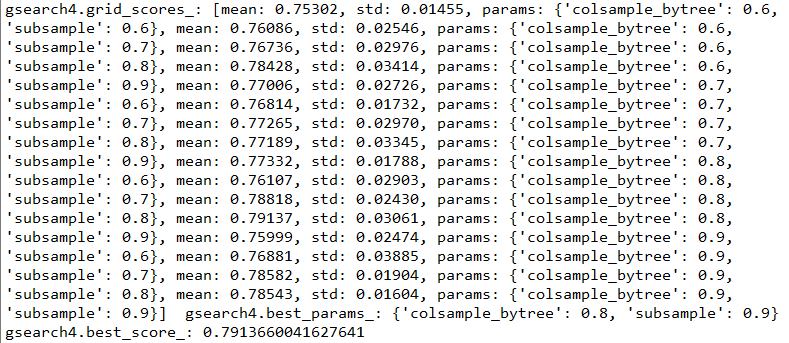
# 下面在 max\_depth=3，min\_child\_weight=3，gamma=0条件下，调整 subsample，colsample\_bytree的参数

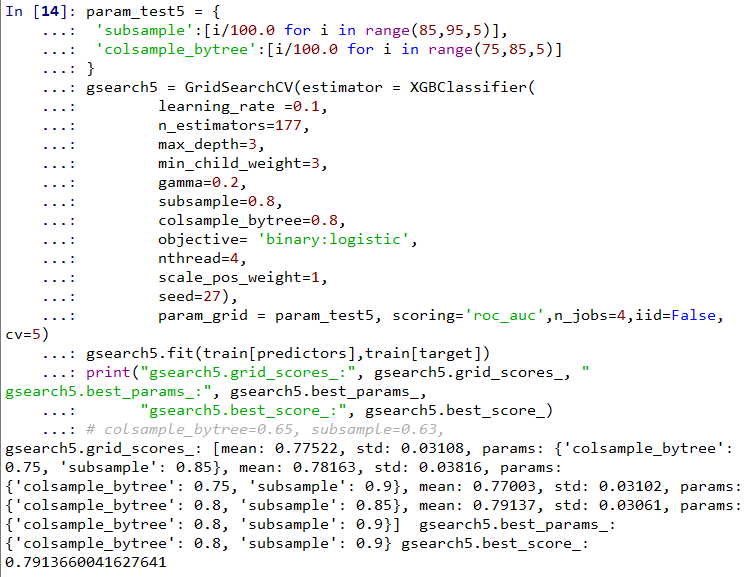
# 结果 最优：subsample=0.9, colsample\_bytree=0.8

# 次优：subsample=0.8, colsample\_bytree=0.8

# 得到第一组参数：max\_depth=3，min\_child\_weight=3，gamma=0.2,subsample=0.9,colsample\_bytree=0.8

# 得到第二组参数：max\_depth=3，min\_child\_weight=3，gamma=0.2,subsample=0.8,colsample\_bytree=0.8





#下面在max\_depth=3，min\_child\_weight=3，gamma=0.4条件下，对subsample，colsample\_bytree进行调参





# 得到第三组参数：max\_depth=3，min\_child\_weight=3，gamma=0.4,subsample=0.9,colsample\_bytree=0.5

# 得到第四组参数：max\_depth=3，min\_child\_weight=3，gamma=0.4,subsample=0.95,colsample\_bytree=0.5

# 这里对max\_depth=7，min\_child\_weight=4条件下，对gamma 进行调参



# 结果 最优：gamma=0

# 次优：gamma=0.1

# 在max\_depth=7,min\_child\_weight=4,gamma=0条件下，对subsample，colsample\_bytree进行调参





# 结果 最优：subsample=0.9，colsample\_bytree=0.95

# 次优：subsample=0.95， colsample\_bytree=0.95

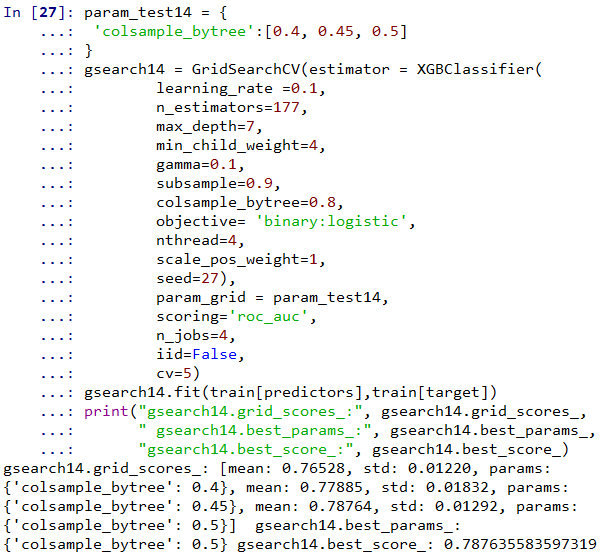
# 得到第五组参数：max\_depth=7，min\_child\_weight=4，gamma=0,subsample=0.9,colsample\_bytree=0.95

# 得到第六组参数：max\_depth=7，min\_child\_weight=4，gamma=0,subsample=0.95,colsample\_bytree=0.95

# 在max\_depth=7,min\_child\_weight=4,gamma=0.1条件下，对subsample，colsample\_bytree进行调参

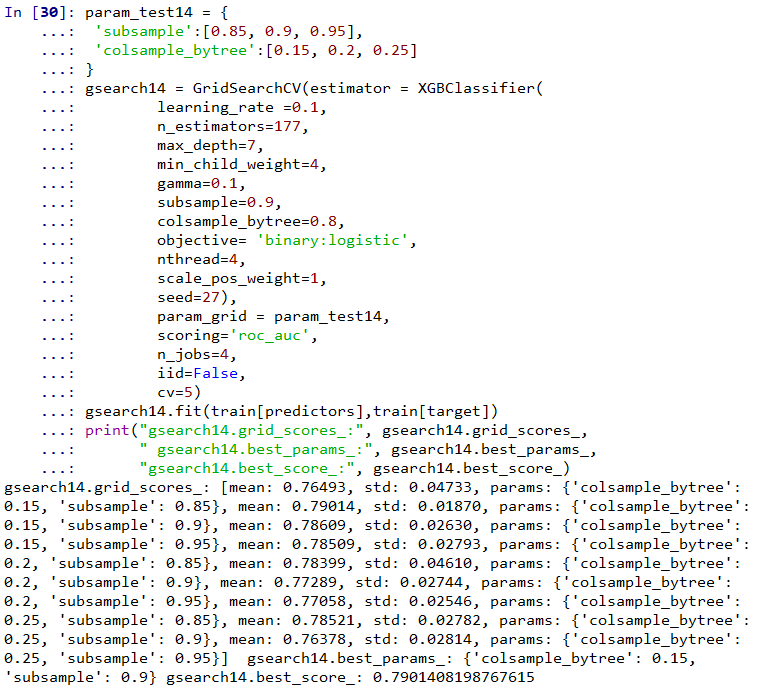














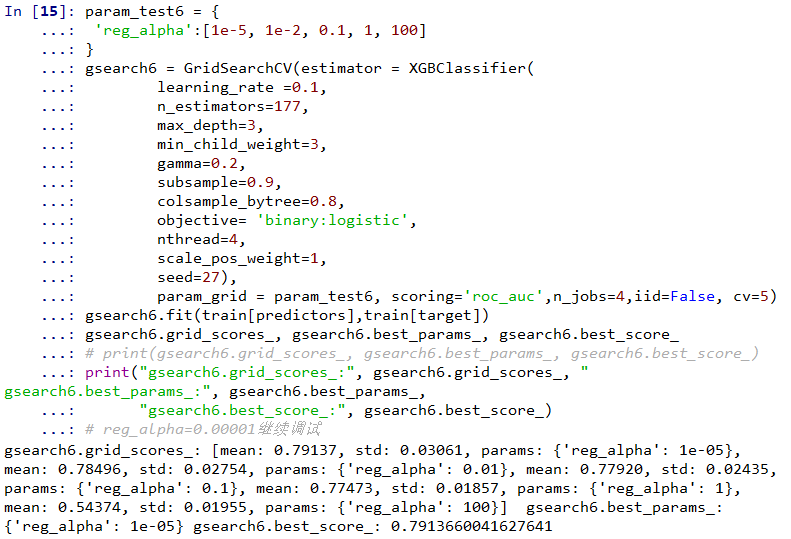
# 结果 最优：subsample=0.9，colsample\_bytree=0.15

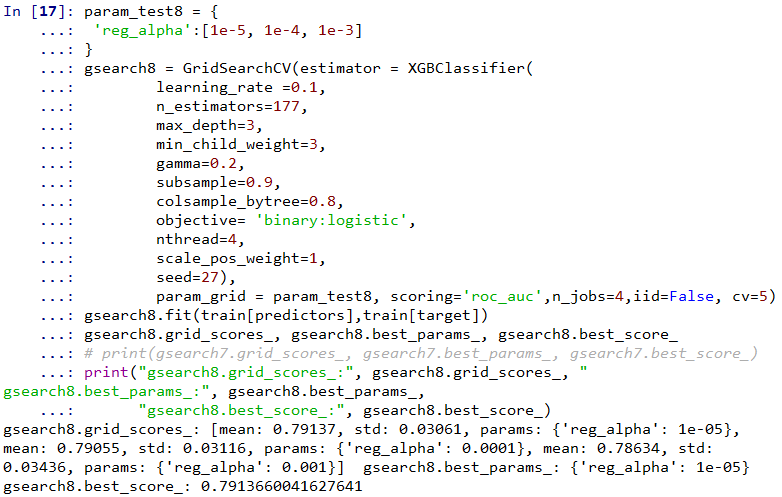
# 次优：subsample=0.9， colsample\_bytree=0.3

# 得到第七组参数：max\_depth=7，min\_child\_weight=4，gamma=0.1,subsample=0.9,colsample\_bytree=0.15

# 得到第八组参数：max\_depth=7，min\_child\_weight=4，gamma=0.1,subsample=0.9,colsample\_bytree=0.3

# 下面再对reg\_alpha,reg\_lambda 进行调参





#下面对reg\_lambda进行调参

