11.

```
Ein: 0.0 gamma: 32.0 lamda: 0.001
Ein: 0.0 gamma: 32.0 lamda: 1.0
Ein: 0.0 gamma: 32.0 lamda: 1000
Ein: 0.0 gamma: 2.0 lamda: 0.001
Ein: 0.0 gamma: 2.0 lamda: 1.0
Ein: 0.0 gamma: 2.0 lamda: 1000
Ein: 0.0 gamma: 0.125 lamda: 0.001
Ein: 0.03 gamma: 0.125 lamda: 1.0
Ein: 0.2425 gamma: 0.125 lamda: 1000
min_Ein: 0.0 gamma: 0.125 lamda: 0.001
```

When (gamma, lamda) = (32 , 0.001) , (32 , 1) , (32 , 1000) , (2 , 0.001) , (2 , 1) , (2 , 1000) , (0.125 , 0.001), there is a minimal Ein 0.0

12.

```
Eout: 0.44 gamma: 32.0 lamda: 0.001
Eout: 0.44 gamma: 32.0 lamda: 1.0
Eout: 0.44 gamma: 32.0 lamda: 1000
Eout: 0.44 gamma: 2.0 lamda: 0.001
Eout: 0.44 gamma: 2.0 lamda: 1.0
Eout: 0.44 gamma: 2.0 lamda: 1000
Eout: 0.46 gamma: 0.125 lamda: 0.001
Eout: 0.45 gamma: 0.125 lamda: 1.0
Eout: 0.39 gamma: 0.125 lamda: 1000
min_Eout: 0.39 gamma: 0.125 lamda: 1000
```

When gamma = 0.125 and lamda = 1000, there is a minimal Eout 0.39

13.

```
Ein: 0.3175 lamda: 0.01
Ein: 0.3175 lamda: 0.1
Ein: 0.3175 lamda: 1.0
Ein: 0.32 lamda: 10.0
Ein: 0.3125 lamda: 100.0
min_Ein: 0.3125 lamda: 100.0
```

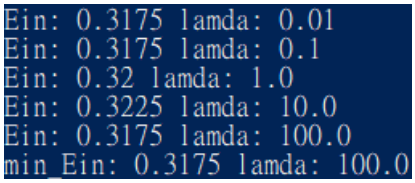
When lamda = 100, there is a minimal Ein 0.3125

14.

```
Eout: 0.36 lamda: 0.01
Eout: 0.36 lamda: 0.1
Eout: 0.36 lamda: 1.0
Eout: 0.37 lamda: 10.0
Eout: 0.39 lamda: 100.0
min_Eout: 0.36 lamda: 1.0
```

When lamda = 0.01 , 0.1 , 1, there is a minimal Eout 0.36

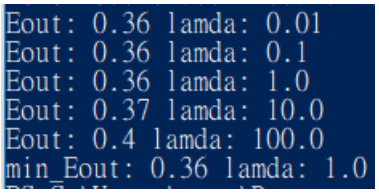
15.




When lamda = 100, minimal Ein = 0.3175

Compare with Ein in Q13, it seems that using bagging may not result in a better performance. Bagging will slow down the executing performance and the enhancement of performance may not be obvious. Bagging may not be efficient in this condition.

16.




When lamda = 1, minimal Eout = 0.36

Compare with Eout in Q14, the conclusion will be the same as previous problem.

It seems that using bagging may not result in a better performance. Bagging will slow down the executing performance and the enhancement of performance may not be obvious. Bagging may not be efficient in this condition.