模型的优点和缺点：

Advantages and disadvantages of the model.

Task1 报告数量预测模型

Task1 Forecasting model for the number of reports

优点：

Advantages：

1. 采用指数拟合的方式，对于数据的变化趋势表现得非常清晰。
2. 计算非常方便，对于已经拟合成功的数据集，我们会得到一个确切的公式，如果需要预测未来某一天的报告数量，则只需输入具体的日期自变量即可得到最终的预测结果。这样来预估更加直观。

1. Exponential fitting is used, which shows a very clear trend for data changes.

2. The calculation is very convenient, for the data set that has been successfully fitted, we will get an exact formula, and if we need to predict the number of reports on a certain day in the future, we just need to input the specific date independent variable to get the final prediction result. It is more intuitive to predict in this way.

缺点：

Disadvantages:

数据的变化趋势表现过度，很难表现出数据集中波动下降的趋势，只能表现出不断下降的趋势，曲线过于平滑，没有改变趋势的拐点。

The trend of the data is over-performed, and it is difficult to show the trend of concentrated fluctuation of the data downward, but only the trend of continuous decline, and the curve is too smooth, without changing the inflection point of the trend.

Task2 困难模式得分百分比分布预测模型

Task2 Difficulty Mode Score Percentage Distribution Prediction Model

优点：

Advantages:

1.BP神经网络可以模拟任何非线性函数，由于我们的输入数据并非连续的、线性的数据，因此使用神经网络训练会比较方便。

2.BP神经网络具有很好的自适应性，它可以根据输入数据的变化自动调整其权重和偏置，从而提高预测精度。

1. BP neural network can model any nonlinear function, and since our input data is not continuous and linear, it is easier to train using neural network.

2. BP neural network is very adaptive, it can automatically adjust its weights and biases according to the changes of input data, thus improving the prediction accuracy.

缺点：

Disadvantages:

1.在我们训练数据的过程中，需要不断地调整隐藏层、迭代次数等参数，否则会出现过拟合或者欠拟合的结果。

2.BP神经网络是一种黑盒模型，尽管我们可以从原理上解释其算法，但是其决策过程是复杂的和不可见的，我们很难去控制训练的效果。

1. In the process of our training data, we need to constantly adjust the parameters such as hidden layers, iteration number, etc., otherwise there will be over-fitting or under-fitting results.

2. BP neural network is a black box model, although we can explain its algorithm in principle, its decision process is complex and invisible, and it is difficult for us to control the effect of training.

Task3 难度分类模型

Task3 Difficulty classification model

优点：

Advantages:

1.不需要对特征进行归一化处理，对于异常值和缺失值具有较好的鲁棒性。

2.相比于决策树分类随机森林算法能够更好地处理高维数据集。

1. No normalization of features is required, and it has better robustness to outliers and missing values.

2. Compared with decision tree classification random forest algorithm can better handle high-dimensional data sets.

缺点：

Disadvantages.

数据集中的数据会有很多噪声值，由于这些噪声值的存在，我们的模型在预测时会表现出过拟合的状况，导致准确率偏低。

The data in the dataset will have a lot of noise values, due to the existence of these noise values, our model will show overfitting in the prediction, resulting in low accuracy.