[1]:
```
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
import seaborn as sns

from matplotlib import pyplot

%matplotlib inline
```

Use pandas to read .csv files

[2]:
```
train = pd.read_csv("./train.csv")
```

Devide into input and output

[3]:
```
y = train["method"]
x = train.drop(['method','No'],axis=1)
```

training

[4]:
```
from sklearn.tree import DecisionTreeClassifier
tree = DecisionTreeClassifier()
tree.fit(x,y)
```

[4]:
```
DecisionTreeClassifier()
```

test for myself, I may need some help....

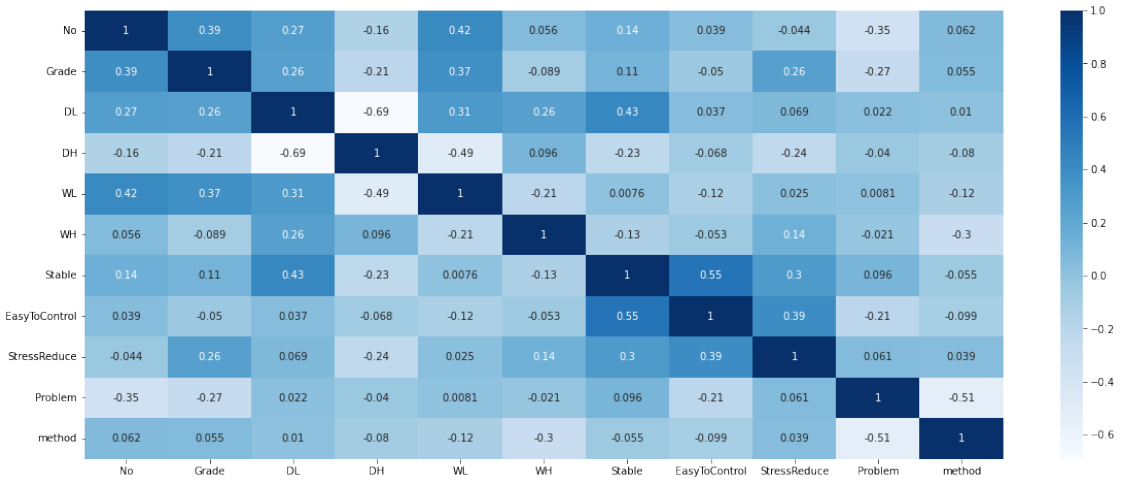
[5]:
```
test = pd.read_csv("test.csv")
ans = tree.predict(test)
ans
```

[5]:
```
array([1], dtype=int64)
```

We can find that the darker the color of the grid, the stronger the correlation between the two labels.

[6]:
```
plt.figure(figsize = (20,8))
sns.heatmap(train.corr(), cmap = 'Blues', annot = True)
```

[6]:
```
<AxesSubplot:>
```


No 1 0.39 0.27 -0.16 0.42 0.056 0.14 0.039 -0.044 -0.35 0.062
Grade 0.39 1 0.26 -0.21 0.37 -0.089 0.11 -0.05 0.26 -0.27 0.055
DL 0.27 0.26 1 -0.69 0.31 0.26 0.43 0.037 0.069 0.022 0.01
DH -0.16 -0.21 -0.69 1 -0.49 0.096 -0.23 -0.068 -0.24 -0.04 -0.08
WL 0.42 0.37 0.31 -0.49 1 -0.21 0.0076 -0.12 0.025 0.0081 -0.12
WH 0.056 -0.089 0.26 0.096 -0.21 1 -0.13 -0.053 0.14 -0.021 -0.3
Stable 0.14 0.11 0.43 -0.23 0.0076 -0.13 1 0.55 0.3 0.096 -0.055
EasyToControl 0.039 -0.05 0.037 -0.068 -0.12 -0.053 0.55 1 0.39 -0.21 -0.099
StressReduce -0.044 0.26 0.069 -0.24 0.025 0.14 0.3 0.39 1 0.061 0.039
Problem -0.35 -0.27 0.022 -0.04 0.0081 -0.021 0.096 -0.21 0.061 1 -0.51
method 0.062 0.055 0.01 -0.08 -0.12 -0.3 -0.055 -0.099 0.039 -0.51 1
No Grade DL DH WL WH Stable EasyToControl StressReduce Problem method
1.0 0.8 0.6 0.4 0.2 0.0 −0.2 −0.4 −0.6