นาย ณภัทรนันท์ ศิลปะ 6421600069

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

In [ ]:
```
from sklearn.preprocessing import StandardScaler
from sklearn.model_selection import train_test_split
from sklearn.neighbors import KNeighborsClassifier
```

In [ ]:
```
df = pd.read_csv('machine-spec.csv')
```

In [ ]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 20 entries, 0 to 19
Data columns (total 3 columns):
 #   Column                 Non-Null Count  Dtype
---  ------                 --------------  -----
 0   machine_age_months     20 non-null     int64
 1   operate_hours_per_day  20 non-null     int64
 2   machine_meets_spec     20 non-null     int64
dtypes: int64(3)
memory usage: 612.0 bytes
```

In [ ]:
```
df.head()
```

Out[ ]:

	machine_age_months	operate_hours_per_day	machine_meets_spec
0	57	4	1
1	73	5	0
2	22	5	1
3	59	4	0
4	15	4	1

In [ ]:
```
att = df[['machine_age_months' ,'operate_hours_per_day']]
label = df['machine_meets_spec']

att_train , att_test , class_train , class_test = train_test_split(att, label,
                                                                   random_state=0,t

scaler = StandardScaler()
scaler.fit(att_train)

att_train[['machine_age_months' ,'operate_hours_per_day']] = scaler.transform(att_t

model = KNeighborsClassifier(n_neighbors=3)
model.fit(att_train, class_train)
```

```
model.score(scaler.transform(att_test),class_test)
# model.score(att_train,class_train)
```

```
c:\Users\HP\Desktop\Main learn work\p3-2-2566\Data Science\.venv\Lib\site-packages\sklearn\base.py:493: UserWarning: X does not have valid feature names, but KNeighborsClassifier was fitted with feature names
  warnings.warn(
```

Out[ ]:
```
0.6666666666666666
```

In [ ]:
```
result = pd.concat([att_test,class_test],axis=1)
result['predict'] = model.predict(scaler.transform(att_test))
result
```

```
c:\Users\HP\Desktop\Main learn work\p3-2-2566\Data Science\.venv\Lib\site-packages\sklearn\base.py:493: UserWarning: X does not have valid feature names, but KNeighborsClassifier was fitted with feature names
  warnings.warn(
```

Out[ ]:

	machine_age_months	operate_hours_per_day	machine_meets_spec	predict
18	35	4	0	1
1	73	5	0	0
19	44	5	1	1
8	27	7	0	1
10	10	6	1	1
17	71	7	0	0