

<https://colab.research.google.com/drive/1zwISy630M3sJFICKqCVjmyCbGoeO8Vxn?usp=sharing#scrollTo=VDtOh86WYSZc>

```
from warnings import simplefilter
```

```
simplefilter(action='ignore', category = DeprecationWarning)
```

```
import pandas as pd
import numpy as np
from sklearn.model_selection import train_test_split
from sklearn import metrics
import matplotlib.pyplot as plt
from sklearn import model_selection
from sklearn.model_selection import cross_val_score, KFold, StratifiedKFold
from sklearn.metrics import make_scorer
from sklearn.impute import SimpleImputer
from sklearn.compose import ColumnTransformer
from sklearn.preprocessing import StandardScaler
from sklearn.metrics import mean_squared_error
from sklearn.model_selection import KFold, StratifiedKFold
from sklearn import model_selection, preprocessing, metrics
import matplotlib.pyplot as plt
import seaborn as sns
from tqdm import tqdm
```

```
!pip install catboost -q
```

```
from sklearn.linear_model import LinearRegression
from catboost import CatBoostRegressor
```

Масштабирую

```
scaler = StandardScaler()
scaler.fit(X[num_features].values)
```

```
X_lr = pd.DataFrame(scaler.transform(X[num_features].values),
index=X[num_features].index, columns=X[num_features].columns)
test_lr = pd.DataFrame(scaler.transform(test[num_features].values),
index=test[num_features].index, columns=test[num_features].columns)
```

Заполняю средней

```
X_lr.fillna(X_lr.mean(), inplace=True)
for f in num_features:
    X[f].fillna(X[f].mean(), inplace=True)
    test[f].fillna(test[f].mean(), inplace=True)
```

```
for f in cat_features:
```

```
X[f].fillna("", inplace=True)
test[f].fillna("", inplace=True)
```

```
X.isna().sum().sum(), test.isna().sum().sum()
```

Катбуст

```
cv_result = cross_val_score(CatBoostRegressor(cat_features=cat_features,
n_estimators=300), X, y, cv = kfold, scoring=mape_scorer)
```

```
cbr = CatBoostRegressor(n_estimators=300)
cbr.fit(X, y, cat_features=cat_features)
```

```
pred_cb = cbr.predict(test)
```

```
pd.DataFrame({'target_price': pred_cb}).to_csv('baseline_catboost.csv', index=False)
```