MÜZIK VE RUH SAğLığı ARAŞTıRMA SONUÇLARıNıN REGRESSION CLASSIFICTIONLU GÖSTERIMLI

Kütüphaneleri indirdim

```
import pandas as pd
import numpy as np

from sklearn.model_selection import train_test_split, GridSearchCV, cross_val_score
from sklearn.metrics import mean_squared_error, r2_score,accuracy_score, confusion_matrix, r2_score, roc_auc_score, roc_curve,classification_report



import matplotlib.pyplot as plt
from sklearn.preprocessing import scale
from sklearn.preprocessing import StandardScaler
from sklearn import model_selection
from sklearn.linear_model import LogisticRegression

from sklearn.neighbors import KNeighborsRegressor
from sklearn.neighbors import KNeighborsClassifier

from sklearn.neural_network import MLPRegressor
from sklearn.neural_network import MLPClassifier

from sklearn import neighbors
from sklearn.svm import SVR


from sklearn.ensemble import GradientBoostingClassifier

from warnings import filterwarnings
filterwarnings("ignore")
```

Dosyayı indirip içindeki datalara 10.satıra kadar baktım ve bilgi öğrendim

```
df = pd.read_csv("/content/mxmh_survey_results.csv")
df.head(10)
```

Timestamp	Age	Primary streaming service	Hours per day	While working	Instrumentalist	Composer	Fav genre	Exploratory	Foreign languages	...	Frequency [R&B]	Frequency [Rap]	Frequency [Rock]	Frequency [Video game music]	Anxiety	Depression	Insomnia	OCD	Music effects	Permissions
8/27/2022 19:29:02	18.0	Spotify	3.0	Yes	Yes	Yes	Latin	Yes	Yes	...	Sometimes	Very frequently	Never	Sometimes	3.0	0.0	1.0	0.0	NaN	I understand.
8/27/2022 19:57:31	63.0	Pandora	1.5	Yes	No	No	Rock	Yes	No	...	Sometimes	Rarely	Very frequently	Rarely	7.0	2.0	2.0	1.0	NaN	I understand.
8/27/2022 21:28:18	18.0	Spotify	4.0	No	No	No	Video game music	No	Yes	...	Never	Rarely	Rarely	Very frequently	7.0	7.0	10.0	2.0	No effect	I understand.
8/27/2022 21:40:40	61.0	YouTube Music	2.5	Yes	No	Yes	Jazz	Yes	Yes	...	Sometimes	Never	Never	Never	9.0	7.0	3.0	3.0	Improve	I understand.
8/27/2022 21:54:47	18.0	Spotify	4.0	Yes	No	No	R&B	Yes	No	...	Very frequently	Very frequently	Never	Rarely	7.0	2.0	5.0	9.0	Improve	I understand.
8/27/2022 21:56:50	18.0	Spotify	5.0	Yes	Yes	Yes	Jazz	Yes	Yes	...	Very frequently	Very frequently	Very frequently	Never	8.0	8.0	7.0	7.0	Improve	I understand.
8/27/2022 22:00:29	18.0	YouTube Music	3.0	Yes	Yes	No	Video game music	Yes	Yes	...	Rarely	Never	Never	Sometimes	4.0	8.0	6.0	0.0	Improve	I understand.
8/27/2022 22:18:59	21.0	Spotify	1.0	Yes	No	No	K pop	Yes	Yes	...	Sometimes	Rarely	Never	Rarely	5.0	3.0	5.0	3.0	Improve	I understand.
8/27/2022 22:33:05	19.0	Spotify	6.0	Yes	No	No	Rock	No	No	...	Never	Never	Very frequently	Never	2.0	0.0	0.0	0.0	Improve	I understand.
8/27/2022 22:44:03	18.0	I do not use a streaming service.	1.0	Yes	No	No	R&B	Yes	Yes	...	Sometimes	Rarely	Sometimes	Sometimes	2.0	2.0	5.0	1.0	Improve	I understand.

Düzenli bir şekilde yaştan OCD'ye kadar değerlere baktım(min,max)

```
df.describe().T

X = df.drop(["Age"],axis=1)
y = df["Age"]
```

```
df.describe().T
```

	count	mean	std	min	25%	50%	75%	max
Age	735.0	2.520680e+01	1.205497e+01	10.0	18.0	21.0	28.0	89.0
Hours per day	736.0	3.572758e+00	3.028199e+00	0.0	2.0	3.0	5.0	24.0
BPM	629.0	1.589948e+06	3.987261e+07	0.0	100.0	120.0	144.0	999999999.0
Anxiety	736.0	5.837636e+00	2.793054e+00	0.0	4.0	6.0	8.0	10.0
Depression	736.0	4.796196e+00	3.028870e+00	0.0	2.0	5.0	7.0	10.0
Insomnia	736.0	3.738451e+00	3.088689e+00	0.0	1.0	3.0	6.0	10.0
OCD	736.0	2.637228e+00	2.842017e+00	0.0	0.0	2.0	5.0	10.0

.T sayesinde X ve Y değerlerinin yerini değitirdim ve daha düzenli drumasını sağladım

.T'yi koymasaydım bu şekilde gözükürdü

```
df.describe()
```

	Age	Hours per day	BPM	Anxiety	Depression	Insomnia	OCD
count	735.000000	736.000000	6.290000e+02	736.000000	736.000000	736.000000	736.000000
mean	25.206803	3.572758	1.589948e+06	5.837636	4.796196	3.738451	2.637228
std	12.054970	3.028199	3.987261e+07	2.793054	3.028870	3.088689	2.842017
min	10.000000	0.000000	0.000000e+00	0.000000	0.000000	0.000000	0.000000
25%	18.000000	2.000000	1.000000e+02	4.000000	2.000000	1.000000	0.000000
50%	21.000000	3.000000	1.200000e+02	6.000000	5.000000	3.000000	2.000000
75%	28.000000	5.000000	1.440000e+02	8.000000	7.000000	6.000000	5.000000
max	89.000000	24.000000	1.000000e+09	10.000000	10.000000	10.000000	10.000000

Sayısal olmayan veri için kodlama

```
dms = pd.get_dummies(df[["Music effects"]])
dms.head()
```

	Music effects_Improve	Music effects_No effect	Music effects_Worsen
0	0	0	0
1	0	0	0
2	0	1	0
3	1	0	0
4	1	0	0

Not:Nan değer olduğu için mussic effects yağtom diğerlerinde ne olduğu sözel olarak çok belliydi aöa mussic effects için bu söylenemez

Sayısal olmayan veri için kodlama permissions için

```
dmn = pd.get_dummies(df[["Permissions"]])
dmn.head()
```

	Permissions_I understand.
0	1
1	1
2	1
3	1
4	1

```
dir(LogisticRegression)
```

```
['__annotations__',
 '__class__',
 '__delattr__',
 '__dict__',
 '__dir__',
 '__doc__',
 '__eq__',
 '__format__',
 '__ge__',
 '__getattribute__',
 '__getstate__',
 '__gt__',
 '__hash__',
 '__init__',
 '__init_subclass__',
 '__le__',
 '__lt__',
 '__module__',
 '__ne__',
 '__new__',
 '__reduce__',
 '__reduce_ex__',
 '__repr__',
 '__setattr__',
 '__setstate__',
 '__sizeof__',
 __str__',
 __subclasshook__',
 __weakref__',
 _check_feature_names',
 _check_n_features',
 _estimator_type',
 _get_param_names',
 _get_tags',
 _more_tags',
 _parameter_constraints',
 _predict_proba_lr',
 _repr_html_',
 _repr_html_inner',
 _repr_mimebundle_',
 _validate_data',
 _validate_params',
 decision_function',
 densify',
 fit',
 get_params',
 predict',
 predict_log_proba',
 predict_proba',
 score',
 set_params',
 sparsify']
```

```
dir(model_selection)
```

```
['BaseCrossValidator',
 'BaseShuffleSplit',
 'GridSearchCV',
 'GroupKFold',
 'GroupShuffleSplit',
 'KFold',
 'LearningCurveDisplay',
 'LeaveOneGroupOut',
 'LeaveOneOut',
 'LeavePGroupsOut',
 'LeavePOut',
 'ParameterGrid',
 'ParameterSampler',
 'PredefinedSplit',
 'RandomizedSearchCV',
 'RepeatedKFold',
 'RepeatedStratifiedKFold',
 'ShuffleSplit',
 'StratifiedGroupKFold',
 'StratifiedKFold',
 'StratifiedShuffleSplit',
 'TimeSeriesSplit',
 '__all__',
 '__builtins__',
 '__cached__',
__doc__',
__file__',
__getattr__',
__loader__',
__name__',
__package__',
__path__',
__spec__',
_plot',
_search',
_split',
_validation',
check_cv',
cross_val_predict',
cross_val_score',
cross_validate',
learning_curve',
permutation_test_score',
train_test_split',
typing',
validation_curve']
```

nesnenin geçerli özniteliklerinin bir listesini döndürdme

```
df_new = pd.DataFrame(y_train, columns=["Tahmin"])

if "Music effects" in y_test:
    df_new["Gerçek"]=y_test.reset_index()["Music effects"]
else:
    print("Column 'Music effects' not found in y_test DataFrame.")
```

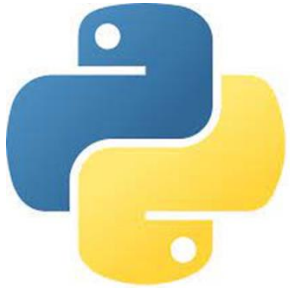
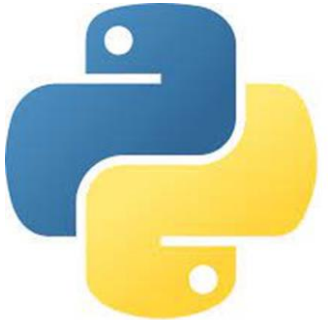
```
Column 'Music effects' not found in y_test DataFrame.
```

'Amacım burda tahmin gerçek değeri bulmaktı Müzik efektleri' sütunu y_test DataFrame'de bulunamadı Aynı şey Anksiyete içinde geçerli

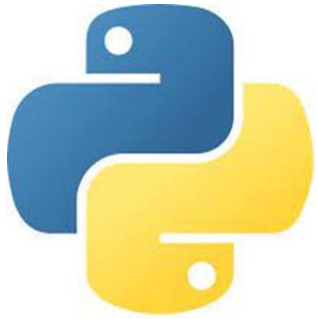
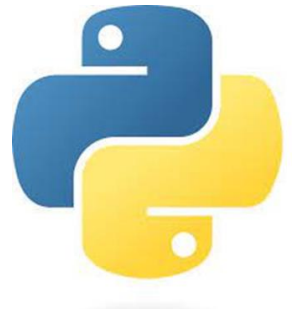
```
df_new = pd.DataFrame(y_train, columns=["Tahmin"])

if "Anxiety" in y_train:
    df_new["Gerçek"]=y_train.reset_index()["Anxiety"]
else:
    print("Column 'Anxiety' not found in y_train DataFrame.")
```

```
Column 'Anxiety' not found in y_train DataFrame.
```

TEŞEKKÜRLER

Ad:Azra

SoyAd:Paşali

Bölüm:Python ve Makine Dili