

MICROSOFT ML.NET

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Microsoft
CERTIFIED

Trainer



MAKINE ÖĞRENMESİ

```
public static int PredictQuality(Wine wine)
{
    return (int)(wine.CitricAcid * 0.7
        + wine.Alcohol * 0.2
        + wine.CitricAcid * 0.5);
}
```

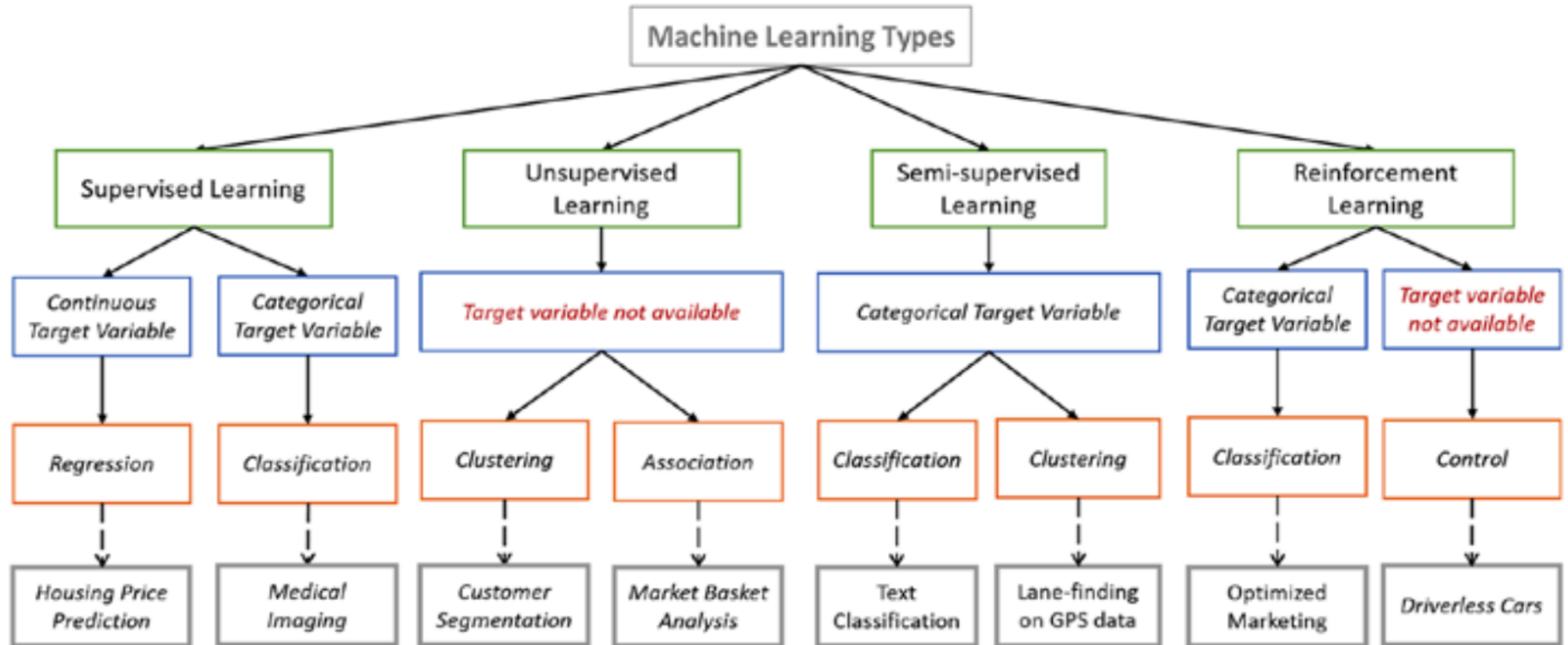


MAKINE ÖĞRENMESİ

```
public static int PredictQuality(Wine wine)
{
    return    *** ML ***
}
```



MAKINE ÖĞRENMESİ



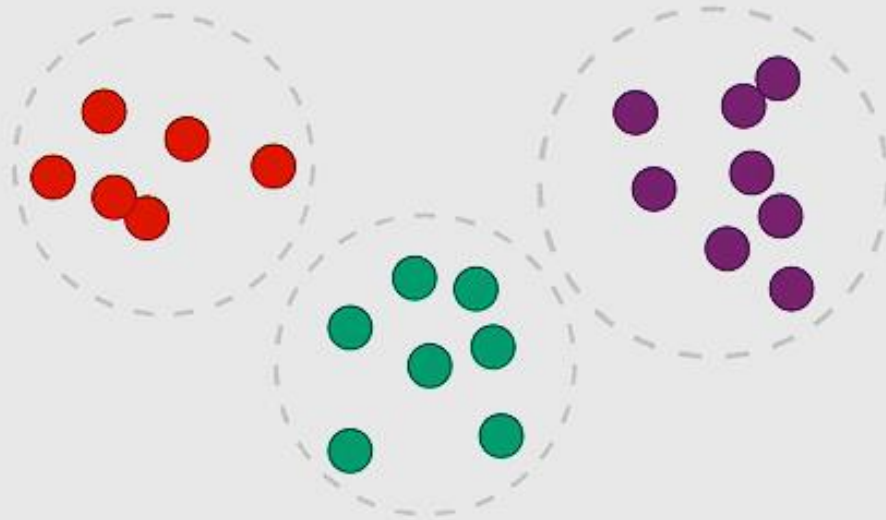
SINIFLANDIRMA

```
public static Hayvan HangiHayvan(Picture x)
{
    return Hayvan.Kurbaga;
}
```



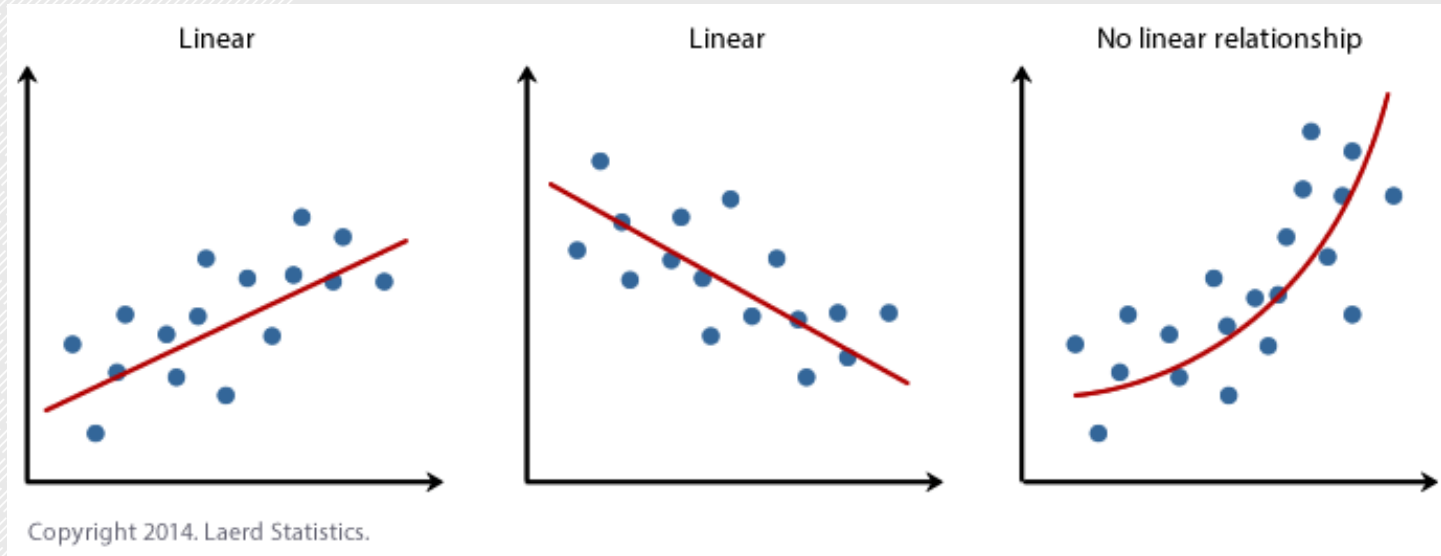
DEMETLEME / KÜMELEME

```
public static Hayvan[][] Demetle(Hayvan[] hayvanat, int num)
{
    // ...
}
```



REGRESYON

```
public static float Sicaklik(DateTime tarih)
{
    return 45;
}
```

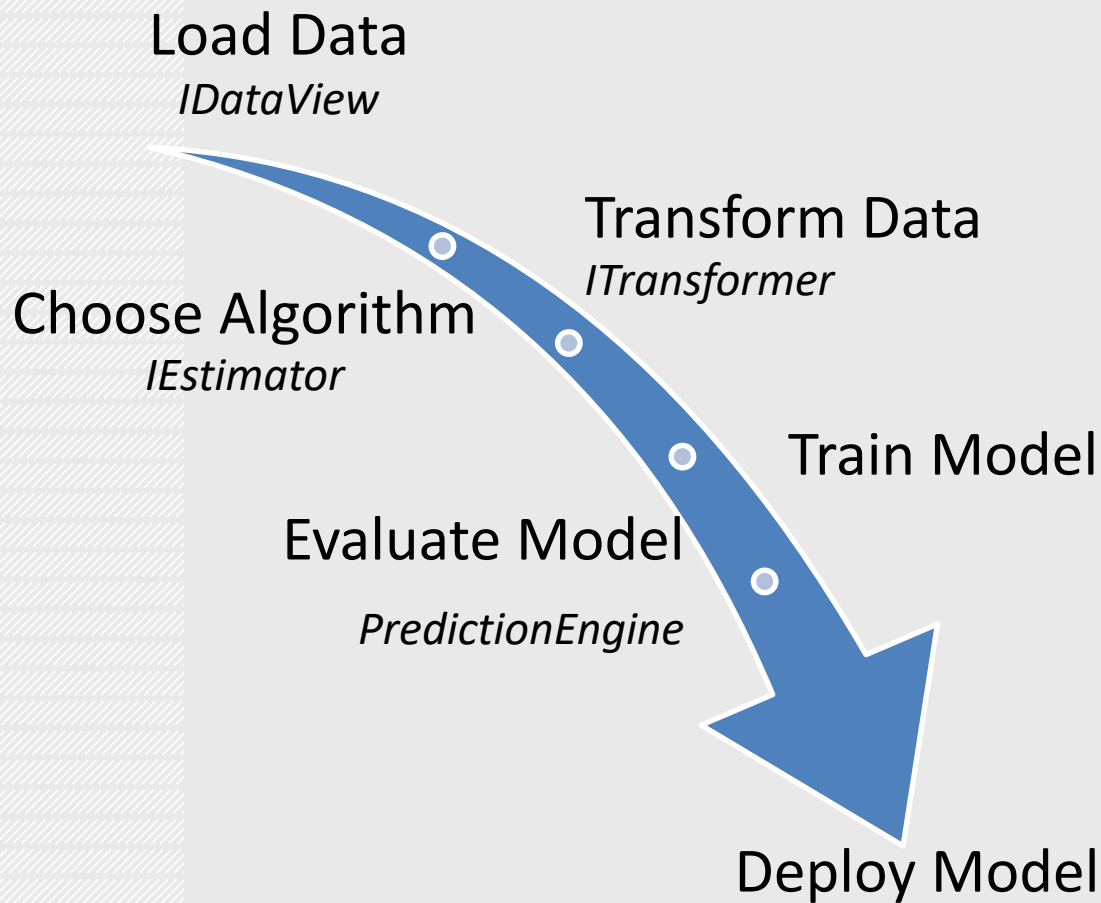


İLK DEĞİL

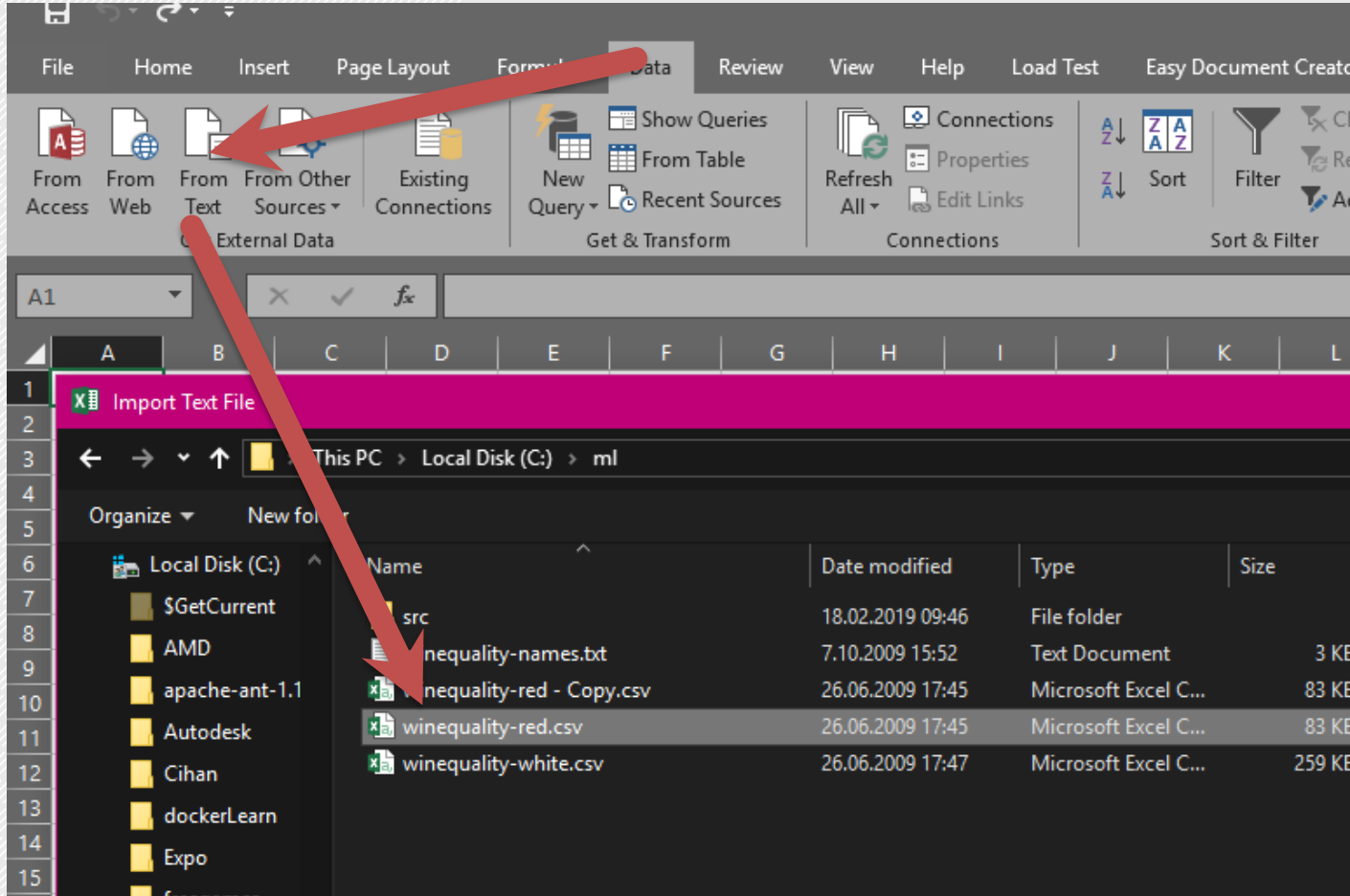
- **Machine Learning Server 9.3,**
- **Azure Machine Learning Service,**
- **Azure Machine Learning Studio,**
- **Azure Databricks** (Spark-based analytics platform),
- **SQL Server Machine Learning Services,**
- **Azure Cognitive Service,**
- **Azure Data Science Virtual Machine,**
- **Windows ML.**



ML.NET



DEMO – VERİYİ İNCELEYELİM



The screenshot shows the Microsoft Excel interface with the 'Data' tab selected. The 'From Text' button in the 'Data' tab is highlighted with a red arrow. Below the ribbon, the 'Import Text File' dialog box is open, showing the file explorer view of the 'ml' folder on the 'Local Disk (C:)'.

The file explorer shows the following files:

Name	Date modified	Type	Size
src	18.02.2019 09:46	File folder	
winequality-names.txt	7.10.2009 15:52	Text Document	3 KB
winequality-red - Copy.csv	26.06.2009 17:45	Microsoft Excel C...	83 KB
winequality-red.csv	26.06.2009 17:45	Microsoft Excel C...	83 KB
winequality-white.csv	26.06.2009 17:47	Microsoft Excel C...	259 KB



DEMO – VERİYİ İNCELEYELİM

Text Import Wizard - Step 2 of 3

This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.

Delimiters

- ☐ Tab
- ☐ Semicolon
- ☐ Comma
- ☐ Space
- ☒ Other:
- ☐ Treat consecutive delimiters as one

Text qualifier:

Data preview

fixed acidity	volatile acidity	citric acid	residual sugar	chlorides
7.4	0.7	0	1.9	0.076
7.8	0.88	0	2.6	0.098
7.8	0.76	0.04	2.3	0.092
11.2	0.28	0.56	1.9	0.075

<

Cancel

< Back

Next >



DEMO – VERİYİ İNCELEYELİM

Text Import Wizard - Step 3 of 3

This screen lets you select each column and set the Data Format.

Column data format

☒ General
☐ Text
☐ Date: DMY
☐ Do not import

'General' converts numeric values to numbers, date values to dates, and text values to text.

Advanced...

Advanced Text Import Settings

Settings used to recognize numeric data

Decimal separator: .
Thousands separator: ,

Note: Numbers will be displayed using the numeric settings specified in the Regional Settings control panel.

Reset ☒ Trailing minus for negative numbers

OK Cancel

Data preview

General	General	General	General
fixed acid	fixed acid	fixed acid	fixed acid
7.4	7.4	7.4	7.4
7.8	7.8	7.8	7.8
7.8	7.8	7.8	7.8
11.2	11.2	11.2	11.2
0.28	0.28	0.56	1.9
0.076	0.076	0.098	0.092
0.075	0.075	0.075	0.075



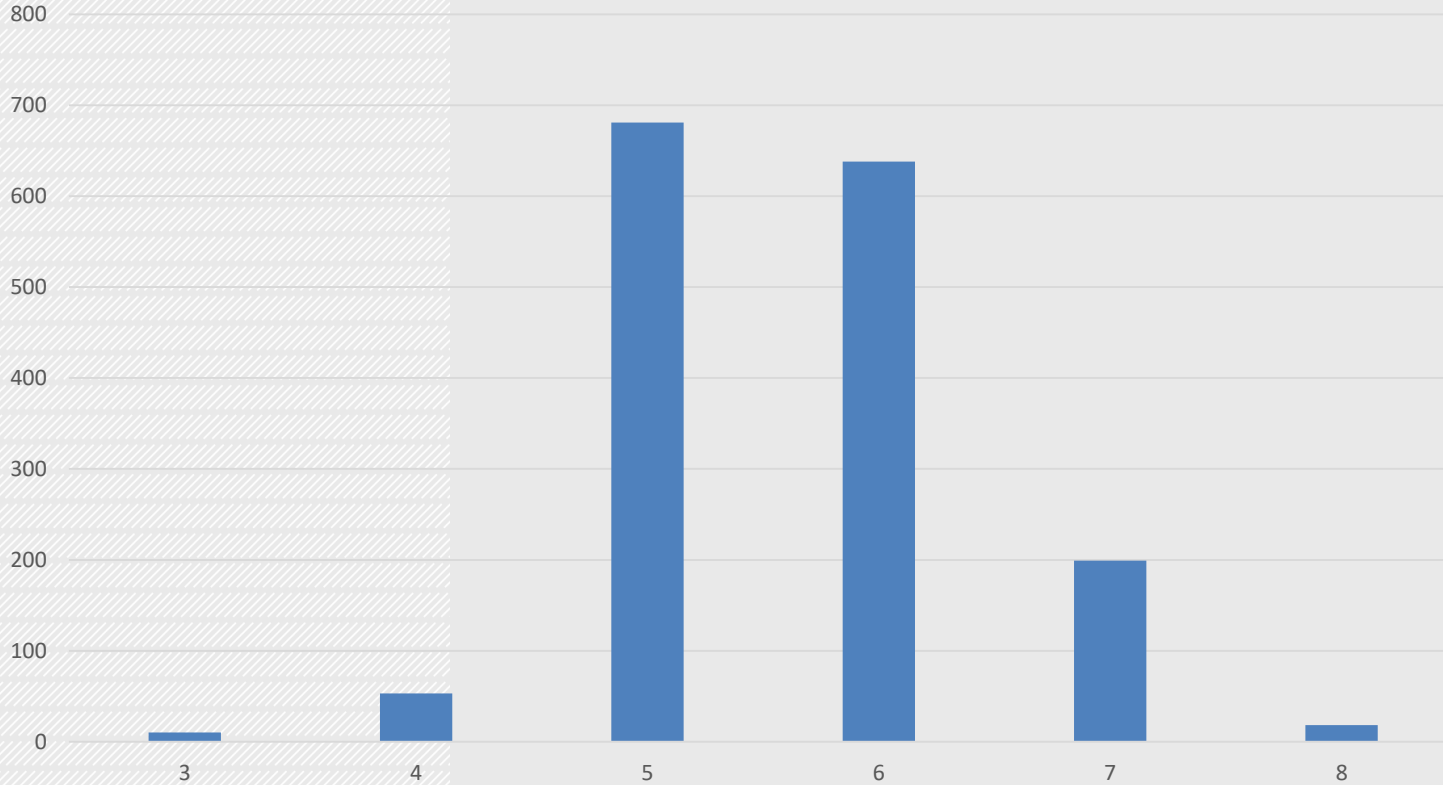
DEMO – VERİYİ İNCELEYELİM

	A	B	C	D	E	F	G	H	I	J	K	L
1	fixed acidity	volatile acidity	citric acid	residual sugar	chlorides	free sulfur dioxide	total sulfur dioxide	density	pH	sulphates	alcohol	quality
2	7,4	0,7	0	1,9	0,076	11	34	0,9978	3,51	0,56	9,4	5
3	7,8	0,88	0	2,6	0,098	25	67	0,9968	3,2	0,68	9,8	5
4	7,8	0,76	0,04	2,3	0,092	15	54	0,997	3,26	0,65	9,8	5
5	11,2	0,28	0,56	1,9	0,075	17	60	0,998	3,16	0,58	9,8	6
6	7,4	0,7	0	1,9	0,076	11	34	0,9978	3,51	0,56	9,4	5
7	7,4	0,66	0	1,8	0,075	13	40	0,9978	3,51	0,56	9,4	5
8	7,9	0,6	0,06	1,6	0,069	15	59	0,9964	3,3	0,46	9,4	5
9	7,3	0,65	0	1,2	0,065	15	21	0,9946	3,39	0,47	10	7
10	7,8	0,58	0,02	2	0,073	9	18	0,9968	3,36	0,57	9,5	7
11	7,5	0,5	0,36	6,1	0,071	17	102	0,9978	3,35	0,8	10,5	5
12	6,7	0,58	0,08	1,8	0,097	15	65	0,9959	3,28	0,54	9,2	5
13	7,5	0,5	0,36	6,1	0,071	17	102	0,9978	3,35	0,8	10,5	5
14	5,6	0,615	0	1,6	0,089	16	59	0,9943	3,58	0,52	9,9	5
15	7,8	0,61	0,29	1,6	0,114	9	29	0,9974	3,26	1,56	9,1	5
16	8,9	0,62	0,18	3,8	0,176	52	145	0,9986	3,16	0,88	9,2	5
17	8,9	0,62	0,19	3,9	0,17	51	148	0,9986	3,17	0,93	9,2	5
18	8,5	0,28	0,56	1,8	0,092	35	103	0,9969	3,3	0,75	10,5	7
19	8,1	0,56	0,28	1,7	0,368	16	56	0,9968	3,11	1,28	9,3	5
20	7,4	0,59	0,08	4,4	0,086	6	29	0,9974	3,38	0,5	9	4
21	7,9	0,32	0,51	1,8	0,341	17	56	0,9969	3,04	1,08	9,2	6
22	8,9	0,22	0,48	1,8	0,077	29	60	0,9968	3,39	0,53	9,4	6
23	7,6	0,39	0,31	2,3	0,082	23	71	0,9982	3,52	0,65	9,7	5
24	7,9	0,43	0,21	1,6	0,106	10	37	0,9966	3,17	0,91	9,5	5
25	8,5	0,49	0,11	2,3	0,084	9	67	0,9968	3,17	0,53	9,4	5



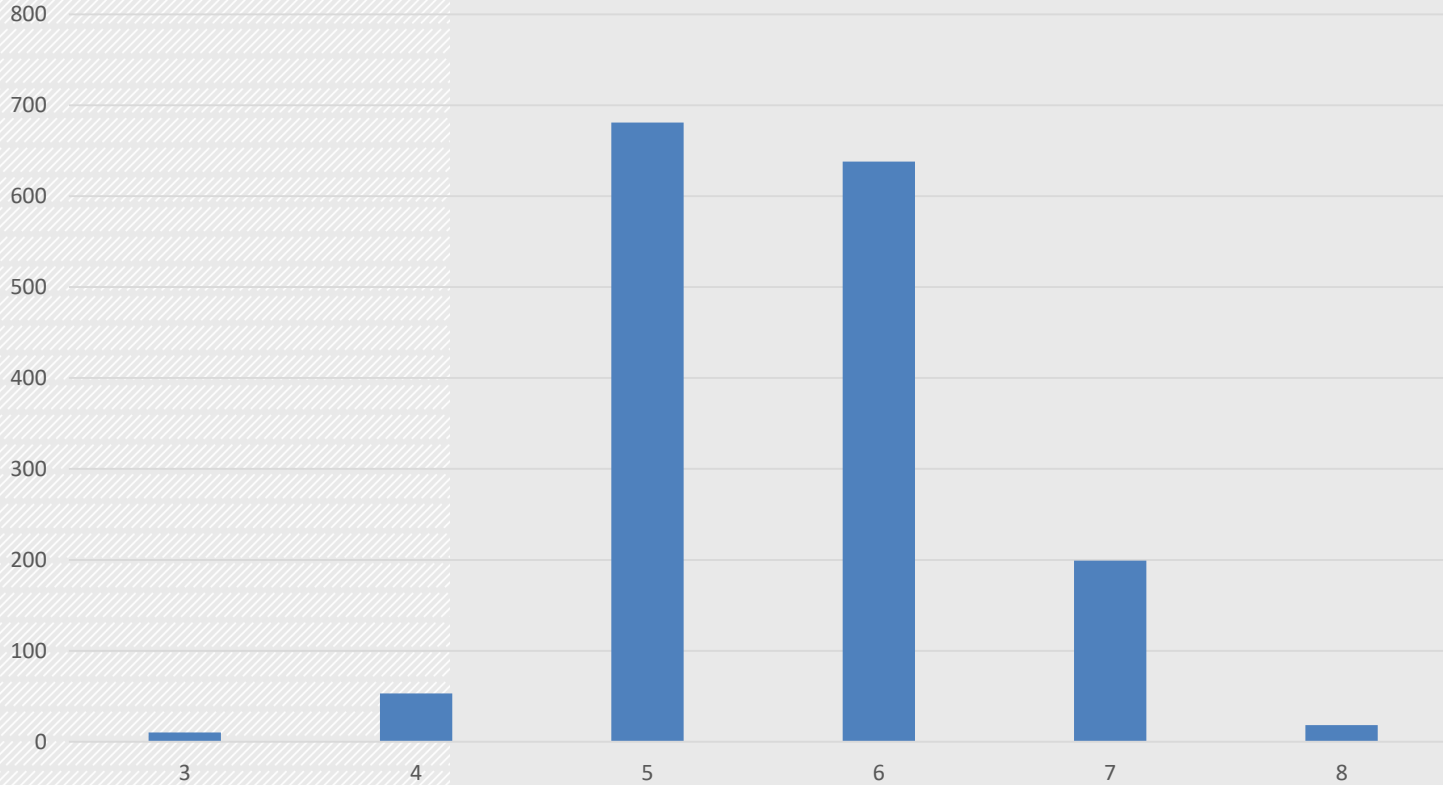
DEMO – VERİYİ İNCELEYELİM

Kalitelerin Dağılımı



DEMO – VERİYİ İNCELEYELİM

Kalitelerin Dağılımı



DEMO – KODA GEÇELİM



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