

BLM442 Keşif aktivitesi-2: SQLite üzerinde veri analizi

İsim/Soyisim: Houssef MENHOUR

Öğrenci Numarası: 140201115

E-mail: husmen93@gmail.com

Kullanılan dataset adı: The Economic Freedom Index

Dataset url: <https://www.kaggle.com/lewisduncan93/the-economic-freedom-index> (<https://www.kaggle.com/lewisduncan93/the-economic-freedom-index>)

İntihal:

Netten alınacak kısmi kod parçaları önceden kod içinde/raporda belirtilmek ve soru sorulduğunda cevaplanması durumunda sıkıntı çıkarmayacaktır. (i) İnternet kaynağını belirtmeyen/açıklayamayan/üzerinde geliştirme yapmayan veya (ii) birbirleriyle benzer/aynı çalışma teslim edenlerin aktiviteleri sıfır üzerinden değerlendirilecektir.

KA-2 Gönderim şekli

1-pdf olarak "ogrenciNo.pdf" dokümanını gönderme -calisma dosyasında (File -> Print Preview) sonrası oluşan html dosyasını yazdır deyip pdf olarak kaydetme veya -(File -> Download as -> HTML) seklinde indirip pdf'e çevirme <http://html2pdf.com/> (<http://html2pdf.com/>)

2-(File -> Download as -> Notebook) indirip "ogrenciNo.ipynb" dokümanını gönderme

suleyman.eken@kocaeli.edu.tr

Problemlerinizin SELECT, WHERE, ORDER BY, SELECT TOP, LIKE, IN, BETWEEN, AS, INTERSECT, GROUP BY, HAVING, COUNT(), MIN() and MAX(), AVG(), SUM(), INNER JOIN, RIGHT (OUTER) JOIN, LEFT (OUTER) JOIN vs. keyword'lerinden birkaçını içermesini sağlayınız.

Problem 1: veriseti import edin

```
In [1]: .mode csv
        .import economic_freedom_index2019_data.csv EFI
        .import ORCID_migrations_2016_12_16_by_person.csv ORCID
        .mode columns
        .headers on
```

Problem 2: mevcut bolegeleri goster

In [2]: `select distinct Region from EFI;`

Region

Asia-Pacific

Europe

Middle East

Sub-Saharan

Americas

Problem 3: ülkeleri 2019 Score göre sirala

In [3]: `select WEBNAME, "2019 Score" from EFI order by "2019 Score" DESC;`

WEBNAME	2019 Score
-----	-----
Iraq	N/A
Libya	N/A
Liechtenst	N/A
Somalia	N/A
Syria	N/A
Yemen	N/A
HongKong	90.2
Singapore	89.4
NewZealand	84.4
Switzerlan	81.9
Australia	80.9
Ireland	80.5
UnitedKing	78.9
Canada	77.7
UnitedArab	77.6
Taiwan	77.3
Iceland	77.1
Netherland	76.8
UnitedStat	76.8
Denmark	76.7
Estonia	76.6
Georgia	75.9
Luxembourg	75.9
Chile	75.4
Sweden	75.2
Finland	74.9
Lithuania	74.2
Malaysia	74.0
CzechRepub	73.7
Germany	73.5
Mauritius	73.0
Norway	73.0
Israel	72.8
Qatar	72.6
SouthKorea	72.3
Japan	72.1
Austria	72.0
Macedonia	71.1
Rwanda	71.1
Macau	71.0
Latvia	70.4
Botswana	69.5
Bulgaria	69.0
SaintLucia	68.7
Jamaica	68.6
Malta	68.6
Romania	68.6
Uruguay	68.6
Thailand	68.3
Cyprus	68.1
Peru	67.8
Poland	67.8
Armenia	67.7
Belgium	67.3
Colombia	67.3
Panama	67.2
Kosovo	67.0
Albania	66.5
Jordan	66.5
Bahrain	66.4
Indonesia	65.8
SaintVince	65.8
Spain	65.7
Slovenia	65.5
Azerbaijan	65.4
Kazakhstan	65.4
-	-

Problem 4: Europe bolgede toplam GDP

```
In [4]: select SUM(CAST(REPLACE(REPLACE(IFNULL("GDP (Billions, PPP)",0),' ',''),'$',
      '' ) AS DECIMAL(10,2))) as "GDP (B$)"
      from EFI
      where Region="Europe";
```

GDP (B\$)
28968.4

Problem 5: Europe bolgede ortalam GDP/Capita

```
In [5]: select AVG(CAST(REPLACE(REPLACE(IFNULL("GDP per Capita (PPP)",0),' ',''),'$',
      '' ) AS DECIMAL(10,2))) as "GDP/Capita ($)"
      from EFI
      where Region="Europe";
```

GDP/Capita (\$)
37101.9777777778

Problem 6: aciklamasi eklenecek, cozumu alt kutuda kod ciktisi ile beraber bulunacak

```
In [6]: Select Region, SUM("Population (Millions)") from EFI group by Region
```

Region	SUM("Population (Millions)")
Americas	993.9
Asia-Pacif	4158.9
Europe	866.5
Middle Eas	433.3
Sub-Sahara	1014.5

Problem 7: GDP/Capita gore ilk 10 ulke goster

```
In [7]: Select WEBNAME, CAST(REPLACE(REPLACE(IFNULL("GDP per Capita (PPP)",0),' ',''),
      '$', '') AS DECIMAL(10,2)) as "GDP/Capita ($)"
      from EFI
      order by "GDP/Capita ($)" DESC
      limit 10;
```

WEBNAME	GDP/Capita (\$)
Liechtenstein	139100
Qatar	124529
Macau	111629
Luxembourg	106374
Singapore	93906
Brunei	78196
Ireland	75538
Norway	71831
UnitedArabEmi	67741
Kuwait	66163

Problem 8: GDP/Capita gore son 10 ulke goster

In [8]: `SELECT WEBNAME, CAST(REPLACE(REPLACE(IFNULL("GDP per Capita (PPP)",0),' ',''), '$', '') AS DECIMAL(10,2)) as "GDP/Capita ($)"
from EFI
order by "GDP/Capita ($)" ASC
limit 10;`

WEBNAME	GDP/Capita (\$)
-----	-----
Somalia	0
Syria	0
CentralAfr	677
Burundi	735
Demcoratic	790
Niger	1164
Malawi	1167
Mozambique	1244
Yemen	1287
Liberia	1354

Problem 9: en az 100 nufus olan ulkeleri GDP ve 2019 Score goster

In [9]: `Select WEBNAME, "2019 Score", "GDP per Capita (PPP)", "Population (Millions)"
" from EFI
where "Population (Millions)" > cast(100 as dec) and "Population (Millions)"
not like "%pl%";`

WEBNAME	2019 Score	GDP per Capita (PPP)	Population (Millions)
-----	-----	-----	-----
Bangladesh	55.6	\$4,211	163.2
Brazil	51.9	\$15,603	207.7
China	58.4	\$16,660	1390.1
India	55.2	\$7,183	1316.9
Indonesia	65.8	\$12,377	262.0
Japan	72.1	\$42,832	126.7
Mexico	64.7	\$19,903	123.5
Nigeria	57.3	\$5,929	188.7
Pakistan	55.0	\$5,358	197.3
Philippine	63.8	\$8,315	105.3
Russia	58.9	\$27,834	144.0
UnitedStat	76.8	\$59,501	325.9

Problem 10: gov integrity gore ve score ilk 50 ulke INNER JOIN

```
In [10]: SELECT t1.WEBNAME, t1.Score from (select WEBNAME, "2019 Score" as Score from
EFI order by "2019 Score" DESC limit 50) t1
INNER JOIN
(SELECT WEBNAME, "Government Integrity" from EFI order by "Government Integr
ity" DESC limit 50) t2
on t1.WEBNAME = t2.WEBNAME
group by t1.WEBNAME
```

WEBNAME	Score
-----	-----
Australia	80.9
Austria	72.0
Botswana	69.5
Canada	77.7
Chile	75.4
CzechRepub	73.7
Denmark	76.7
Estonia	76.6
Finland	74.9
Georgia	75.9
Germany	73.5
HongKong	90.2
Iceland	77.1
Ireland	80.5
Israel	72.8
Japan	72.1
Liechtenst	N/A
Luxembourg	75.9
Malaysia	74.0
Malta	68.6
Netherland	76.8
NewZealand	84.4
Norway	73.0
Qatar	72.6
Rwanda	71.1
Singapore	89.4
Somalia	N/A
SouthKorea	72.3
Sweden	75.2
Switzerlan	81.9
Taiwan	77.3
UnitedArab	77.6
UnitedKing	78.9
UnitedStat	76.8
Uruguay	68.6

Problem 11: GDP ve Score gore ilk 50 ulke LEFT JOIN

```
In [11]: SELECT t1.WEBNAME, t1.Score from (select WEBNAME, "2019 Score" as Score from
EFI order by "2019 Score" DESC limit 50) t1
LEFT JOIN
(SELECT WEBNAME, "Government Integrity" from EFI order by "Government Integr
ity" DESC limit 50) t2
on t1.WEBNAME = t2.WEBNAME
group by t1.WEBNAME
```

WEBNAME	Score
Australia	80.9
Austria	72.0
Botswana	69.5
Bulgaria	69.0
Canada	77.7
Chile	75.4
Cyprus	68.1
CzechRepub	73.7
Denmark	76.7
Estonia	76.6
Finland	74.9
Georgia	75.9
Germany	73.5
HongKong	90.2
Iceland	77.1
Iraq	N/A
Ireland	80.5
Israel	72.8
Jamaica	68.6
Japan	72.1
Latvia	70.4
Libya	N/A
Liechtenst	N/A
Lithuania	74.2
Luxembourg	75.9
Macau	71.0
Macedonia	71.1
Malaysia	74.0
Malta	68.6
Mauritius	73.0
Netherland	76.8
NewZealand	84.4
Norway	73.0
Qatar	72.6
Romania	68.6
Rwanda	71.1
SaintLucia	68.7
Singapore	89.4
Somalia	N/A
SouthKorea	72.3
Sweden	75.2
Switzerlan	81.9
Syria	N/A
Taiwan	77.3
Thailand	68.3
UnitedArab	77.6
UnitedKing	78.9
UnitedStat	76.8
Uruguay	68.6
Yemen	N/A

Problem 12: GDP ve Score gore ilk 50 ulke INNER JOIN


```
In [12]: SELECT t1.WEBNAME, t1.Score, t1."GDP/Capita ($)" from (select WEBNAME, "2019
Score" as Score, CAST(REPLACE(REPLACE(IFNULL("GDP per Capita (PPP)",0),' ',''),
'),'$','') AS DECIMAL(10,2)) as "GDP/Capita ($)" from EFI order by "2019 Sco
re" DESC limit 50) t1
INNER JOIN
(SELECT WEBNAME, CAST(REPLACE(REPLACE(IFNULL("GDP per Capita (PPP)",0),' ',''),
'),'$','') AS DECIMAL(10,2)) as "GDP/Capita ($)" from EFI order by "GDP/Capi
ta ($)" DESC limit 50) t2
on t1.WEBNAME = t2.WEBNAME
group by t1.WEBNAME
```

WEBNAME	Score	GDP/Capita (\$)
-----	-----	-----
Australia	80.9	50334
Austria	72.0	49869
Canada	77.7	48265
Cyprus	68.1	37023
CzechRepub	73.7	35512
Denmark	76.7	49883
Estonia	76.6	31750
Finland	74.9	44333
Germany	73.5	50425
HongKong	90.2	61393
Iceland	77.1	51842
Ireland	80.5	75538
Israel	72.8	36340
Japan	72.1	42832
Liechtenst	N/A	139100
Lithuania	74.2	32299
Luxembourg	75.9	106374
Macau	71.0	111629
Malaysia	74.0	29041
Malta	68.6	41945
Netherland	76.8	53635
NewZealand	84.4	38934
Norway	73.0	71831
Qatar	72.6	124529
Singapore	89.4	93906
SouthKorea	72.3	39434
Sweden	75.2	51475
Switzerlan	81.9	61422
Taiwan	77.3	50294
UnitedArab	77.6	67741
UnitedKing	78.9	44118
UnitedStat	76.8	59501

Problem 13: Financial Freedom ve score gore ilk 50 ulke LEFT JOIN

```
In [13]: SELECT t1.WEBNAME, t1.Score, t1."GDP/Capita ($)" from (select WEBNAME, "2019
Score" as Score, CAST(REPLACE(REPLACE(IFNULL("GDP per Capita (PPP)",0),' ',''),
'),'$','') AS DECIMAL(10,2)) as "GDP/Capita ($)" from EFI order by "2019 Sco
re" DESC limit 50) t1
INNER JOIN
(SELECT WEBNAME, CAST(REPLACE(REPLACE(IFNULL("GDP per Capita (PPP)",0),' ',''),
'),'$','') AS DECIMAL(10,2)) as "GDP/Capita ($)" from EFI order by "GDP/Capi
ta ($)" DESC limit 50) t2
on t1.WEBNAME = t2.WEBNAME
group by t1.WEBNAME
```

WEBNAME	Score	GDP/Capita (\$)
-----	-----	-----
Australia	80.9	50334
Austria	72.0	49869
Canada	77.7	48265
Cyprus	68.1	37023
CzechRepub	73.7	35512
Denmark	76.7	49883
Estonia	76.6	31750
Finland	74.9	44333
Germany	73.5	50425
HongKong	90.2	61393
Iceland	77.1	51842
Ireland	80.5	75538
Israel	72.8	36340
Japan	72.1	42832
Liechtenst	N/A	139100
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Luxembourg	75.9	106374
Macau	71.0	111629
Malaysia	74.0	29041
Malta	68.6	41945
Netherland	76.8	53635
NewZealand	84.4	38934
Norway	73.0	71831
Qatar	72.6	124529
Singapore	89.4	93906
SouthKorea	72.3	39434
Sweden	75.2	51475
Switzerlan	81.9	61422
Taiwan	77.3	50294
UnitedArab	77.6	67741
UnitedKing	78.9	44118
UnitedStat	76.8	59501

Problem 14: gov integrity gore ve GDP ilk 50 ulke INNER JOIN

```
In [14]: SELECT t1.WEBNAME, t1.Score, t1."Financial Freedom" from (select WEBNAME, "2019 Score" as Score, "Financial Freedom" from EFI order by "2019 Score" DESC limit 50) t1
INNER JOIN
(SELECT WEBNAME, "Financial Freedom" from EFI order by "GDP/Capita ($)" DESC limit 50) t2
on t1.WEBNAME = t2.WEBNAME
group by t1.WEBNAME
```

WEBNAME	Score	Financial Freedom
-----	-----	-----
Australia	80.9	90
Austria	72.0	70
Botswana	69.5	70
Bulgaria	69.0	60
Canada	77.7	80
Chile	75.4	70
Cyprus	68.1	60
CzechRepub	73.7	80
Denmark	76.7	80

Problem 15: Financial Freedom ve score gore ilk 50 ulke LEFT JOIN

```
In [15]: SELECT t1.WEBNAME, t1.Score, t1."Financial Freedom" from (select WEBNAME, "2
019 Score" as Score, "Financial Freedom" from EFI order by "2019 Score" DESC
limit 50) t1
LEFT JOIN
(SELECT WEBNAME, "Financial Freedom" from EFI order by "GDP/Capita ($) " DESC
limit 50) t2
on t1.WEBNAME = t2.WEBNAME
group by t1.WEBNAME
```

WEBNAME	Score	Financial Freedom
-----	-----	-----
Australia	80.9	90
Austria	72.0	70
Botswana	69.5	70
Bulgaria	69.0	60
Canada	77.7	80
Chile	75.4	70
Cyprus	68.1	60
CzechRepub	73.7	80
Denmark	76.7	80
Estonia	76.6	70
Finland	74.9	80
Georgia	75.9	70
Germany	73.5	70
HongKong	90.2	90
Iceland	77.1	70
Iraq	N/A	N/A
Ireland	80.5	70
Israel	72.8	70
Jamaica	68.6	50
Japan	72.1	60
Latvia	70.4	60
Libya	N/A	N/A
Liechtenst	N/A	80
Lithuania	74.2	70
Luxembourg	75.9	80
Macau	71.0	70
Macedonia	71.1	60
Malaysia	74.0	50
Malta	68.6	60
Mauritius	73.0	70
Netherland	76.8	80
NewZealand	84.4	80
Norway	73.0	60
Qatar	72.6	60
Romania	68.6	50
Rwanda	71.1	40
SaintLucia	68.7	40
Singapore	89.4	80
Somalia	N/A	N/A
SouthKorea	72.3	70
Sweden	75.2	80
Switzerlan	81.9	90
Syria	N/A	N/A
Taiwan	77.3	60
Thailand	68.3	60
UnitedArab	77.6	60
UnitedKing	78.9	80
UnitedStat	76.8	80
Uruguay	68.6	30
Yemen	N/A	N/A

In []: