

IMPORT LIBRARIES

```
In [1]: from urllib import request
import xml.etree.ElementTree as ET
import pandas as pd
import sqlite3
from datetime import datetime
```

GET XML FROM URL

```
In [2]: url = 'https://www.tcmb.gov.tr/kurlar/today.xml'
print ("URL:", url)

URL: https://www.tcmb.gov.tr/kurlar/today.xml

In [3]: html = request.urlopen(url)
data = html.read()
import_time = datetime.now()
```

READ DATA AND WRITE TO DATAFRAME

```
In [4]: df = pd.read_xml(data)
df

Out[4]:
```

	CrossOrder	Kod	CurrencyCode	Unit	Isim	CurrencyName	ForexBuying	ForexSelling	BanknoteBuying	BanknoteSelling	CrossRateUSD	CrossF
0	0	USD	USD	1	ABD DOLARI	US DOLLAR	18.24740	18.28020	18.2346	18.3077	NaN	
1	1	AUD	AUD	1	AVUSTRALYA DOLARI	AUSTRALIAN DOLLAR	12.17070	12.25010	12.1147	12.3236	1.4958	
2	2	DKK	DKK	1	DANIMARKA KRONU	DANISH KRONE	2.44290	2.45490	2.4412	2.4606	7.4579	
3	9	EUR	EUR	1	EURO	EURO	18.19540	18.22810	18.1826	18.2555	NaN	
4	10	GBP	GBP	1	İNGİLİZ STERLİNİ	POUND STERLING	20.74970	20.85790	20.7352	20.8892	NaN	
5	3	CHF	CHF	1	İSVİÇRE FRANGI	SWISS FRANK	18.89910	19.02050	18.8708	19.0490	0.9633	
6	4	SEK	SEK	1	İSVEÇ KRONU	SWEDISH KRONA	1.68550	1.70290	1.6843	1.7069	10.7800	
7	6	CAD	CAD	1	KANADA DOLARI	CANADIAN DOLLAR	13.72420	13.78610	13.6734	13.8384	1.3278	
8	11	KWD	KWD	1	KUVEYT DİNARI	KUWAITI DINAR	58.69690	59.46500	57.8165	60.3570	NaN	
9	7	NOK	NOK	1	NORVEÇ KRONU	NORWEGIAN KRONE	1.77660	1.78850	1.7753	1.7926	10.2500	
10	8	SAR	SAR	1	SUUDİ ARABİSTAN RİYALİ	SAUDI RIYAL	4.85610	4.86480	4.8196	4.9013	3.7577	
11	5	JPY	JPY	100	JAPON YENİ	JAPANESE YEN	12.70070	12.78480	12.6537	12.8333	143.3300	
12	12	BGN	BGN	1	BULGAR LEVASI	BULGARIAN LEV	9.26640	9.38770	NaN	NaN	1.9582	
13	13	RON	RON	1	RUMEN LEYİ	NEW LEU	3.67400	3.72210	NaN	NaN	4.9388	
14	14	RUB	RUB	1	RUS RUBLESİ	RUSSIAN ROUBLE	0.30207	0.30602	NaN	NaN	60.0700	
15	15	IRR	IRR	100	İRAN RİYALİ	IRANIAN RIAL	0.04320	0.04377	NaN	NaN	42000.0000	
16	16	CNY	CNY	1	ÇİN YUANI	CHINESE RENMINBI	2.58650	2.62040	NaN	NaN	7.0152	
17	17	PKR	PKR	1	PAKİSTAN RUPİSİ	PAKISTANI RUPEE	0.07660	0.07760	NaN	NaN	236.8800	
18	18	QAR	QAR	1	KATAR RİYALİ	QATARI RIAL	4.96280	5.02770	NaN	NaN	3.6562	
19	19	KRW	KRW	1	GÜNEY KORE WONU	SOUTH KOREAN WON	0.01304	0.01321	NaN	NaN	1392.0000	
20	20	AZN	AZN	1	AZERBAYCAN YENİ MANATI	AZERBAIJANI NEW MANAT	10.67990	10.81960	NaN	NaN	1.6990	
21	21	AED	AED	1	BİRLEŞİK ARAP EMİRLİKLERİ DİRHEMİ	UNITED ARAB EMIRATES DIRHAM	4.94010	5.00470	NaN	NaN	3.6730	
22	0	XDR	XDR	1	ÖZEL ÇEKME HAKKI (SDR)	SPECIAL DRAWING RIGHT (SDR)	23.62480	NaN	NaN	NaN	NaN	

CREATE SQL TABLE

```
In [5]: connection_obj = sqlite3.connect('test_database')
cursor_obj = connection_obj.cursor()
cursor_obj.execute("DROP TABLE IF EXISTS DovizSQL")
table = """ CREATE TABLE DovizSQL (

        CrossOrder VARCHAR(255) NOT NULL,
        Kod VARCHAR(255) NOT NULL,
        CurrencyCode VARCHAR(255) NOT NULL,
        Unit VARCHAR(255) NOT NULL,
        Isim VARCHAR(255) NOT NULL,
        CurrencyName VARCHAR(255) NOT NULL,
        ForexBuying VARCHAR(255) NOT NULL,
        ForexSelling VARCHAR(255) NOT NULL,
        BanknoteBuying VARCHAR(255) NOT NULL,
        BanknoteSelling VARCHAR(255) NOT NULL,
        CrossRateUSD VARCHAR(255) NOT NULL,
        CrossRateOther VARCHAR(255) NOT NULL
    ); """

cursor_obj.execute(table)

Out[5]: <sqlite3.Cursor at 0x14756440180>

In [6]: #conn = sqlite3.connect('DovizSQL')
c = connection_obj.cursor()

c.execute('CREATE TABLE IF NOT EXISTS DovizSQL (text)')
connection_obj.commit()

df.to_sql('DovizSQL', connection_obj, if_exists='replace', index = False)

Out[6]: 23

In [7]: c.execute(''''
SELECT * FROM DovizSQL
''')

for x in c.fetchall():
    print(x)

(0, 'USD', 'USD', 1, 'ABD DOLARI', 'US DOLLAR', 18.2474, 18.2802, 18.2346, 18.3077, None, None)
(1, 'AUD', 'AUD', 1, 'AVUSTRALYA DOLARI', 'AUSTRALIAN DOLLAR', 12.1707, 12.2501, 12.1147, 12.3236, 1.4958, None)
(2, 'DKK', 'DKK', 1, 'DANIMARKA KRONU', 'DANISH KRONE', 2.4429, 2.4549, 2.4412, 2.4606, 7.4579, None)
(9, 'EUR', 'EUR', 1, 'EURO', 'EURO', 18.1954, 18.2281, 18.1826, 18.2555, None, 0.9972)
(10, 'GBP', 'GBP', 1, 'İNGİLİZ STERLİNİ', 'POUND STERLING', 20.7497, 20.8579, 20.7352, 20.8892, None, 1.1391)
(3, 'CHF', 'CHF', 1, 'İSVİÇRE FRANGI', 'SWISS FRANK', 18.8991, 19.0205, 18.8708, 19.049, 0.9633, None)
(4, 'SEK', 'SEK', 1, 'İSVEÇ KRONU', 'SWEDISH KRONA', 1.6855, 1.7029, 1.6843, 1.7069, 10.78, None)
(6, 'CAD', 'CAD', 1, 'KANADA DOLARI', 'CANADIAN DOLLAR', 13.7242, 13.7861, 13.6734, 13.8384, 1.3278, None)
(11, 'KWD', 'KWD', 1, 'KUVEYT DİNARI', 'KUWAITI DINAR', 58.6969, 59.465, 57.8165, 60.357, None, 3.2349)
(7, 'NOK', 'NOK', 1, 'NORVEÇ KRONU', 'NORWEGIAN KRONE', 1.7766, 1.7885, 1.7753, 1.7926, 10.25, None)
(8, 'SAR', 'SAR', 1, 'SUUDİ ARABİSTAN RİYALİ', 'SAUDI RIYAL', 4.8561, 4.8648, 4.8196, 4.9013, 3.7577, None)
(5, 'JPY', 'JPY', 100, 'JAPON YENİ', 'JAPANESE YEN', 12.7007, 12.7848, 12.6537, 12.8333, 143.33, None)
(12, 'BGN', 'BGN', 1, 'BULGAR LEVASI', 'BULGARIAN LEV', 9.2664, 9.3877, None, None, 1.9582, None)
(13, 'RON', 'RON', 1, 'RUMEN LEYİ', 'NEW LEU', 3.674, 3.7221, None, None, 4.9388, None)
(14, 'RUB', 'RUB', 1, 'RUS RUBLESİ', 'RUSSIAN ROUBLE', 0.30207, 0.30602, None, None, 60.07, None)
(15, 'IRR', 'IRR', 100, 'İRAN RİYALİ', 'IRANIAN RIAL', 0.0432, 0.04377, None, None, 42000.0, None)
(16, 'CNY', 'CNY', 1, 'ÇİN YUANI', 'CHINESE RENMINBI', 2.5865, 2.6204, None, None, 7.0152, None)
(17, 'PKR', 'PKR', 1, 'PAKİSTAN RUPİSİ', 'PAKISTANI RUPEE', 0.0766, 0.0776, None, None, 236.88, None)
(18, 'QAR', 'QAR', 1, 'KATAR RİYALİ', 'QATARI RIAL', 4.9628, 5.0277, None, None, 3.6562, None)
(19, 'KRW', 'KRW', 1, 'GÜNEY KORE WONU', 'SOUTH KOREAN WON', 0.01304, 0.01321, None, None, 1392.0, None)
(20, 'AZN', 'AZN', 1, 'AZERBAYCAN YENİ MANATI', 'AZERBAIJANI NEW MANAT', 10.6799, 10.8196, None, None, 1.699, None)
(21, 'AED', 'AED', 1, 'BİRLEŞİK ARAP EMİRLİKLERİ DİRHEMİ', 'UNITED ARAB EMIRATES DIRHAM', 4.9401, 5.0047, None, None, 3.673, No
ne)
(0, 'XDR', 'XDR', 1, 'ÖZEL ÇEKME HAKKI (SDR)', 'SPECIAL DRAWING RIGHT (SDR)', 23.6248, None, None, None, None, 1.29353)
```

SUMMARY

```
In [8]: date_alert = "The date of importing the today.xml file is " + str(import_time)

In [9]: currency_codes = []
c.execute(''''
SELECT CurrencyCode FROM DovizSQL
''')

for data in c.fetchall():
    currency_codes.append(data[0])

currency_names = []
c.execute(''''
SELECT CurrencyName FROM DovizSQL
''')

for data in c.fetchall():
    currency_names.append(data[0])

forex_buying = []
c.execute(''''
SELECT ForexBuying FROM DovizSQL
''')

for data in c.fetchall():
    forex_buying.append(data[0])

forex_selling = []
c.execute(''''
SELECT ForexSelling FROM DovizSQL
''')

for data in c.fetchall():
    forex_selling.append(data[0])

In [10]: print("\n" + date_alert)
print("\nCurrencyCode|CurrencyName|ForexBuying|ForexSelling\n")
for i in range(len(currency_codes)):
    print(currency_codes[i] + " | ", end="")
    print(currency_names[i] + " | ", end="")
    print(forex_buying[i], end="")
    print(" | ", end="")
    print(forex_selling[i], end="")
    print(" ")

The date of importing the today.xml file is 2022-09-18 10:58:44.344952

CurrencyCode|CurrencyName|ForexBuying|ForexSelling

USD | US DOLLAR | 18.2474 | 18.2802
AUD | AUSTRALIAN DOLLAR | 12.1707 | 12.2501
DKK | DANISH KRONE | 2.4429 | 2.4549
EUR | EURO | 18.1954 | 18.2281
GBP | POUND STERLING | 20.7497 | 20.8579
CHF | SWISS FRANK | 18.8991 | 19.0205
SEK | SWEDISH KRONA | 1.6855 | 1.7029
CAD | CANADIAN DOLLAR | 13.7242 | 13.7861
KWD | KUWAITI DINAR | 58.6969 | 59.465
NOK | NORWEGIAN KRONE | 1.7766 | 1.7885
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IRR | IRANIAN RIAL | 0.0432 | 0.04377
CNY | CHINESE RENMINBI | 2.5865 | 2.6204
PKR | PAKISTANI RUPEE | 0.0766 | 0.0776
QAR | QATARI RIAL | 4.9628 | 5.0277
KRW | SOUTH KOREAN WON | 0.01304 | 0.01321
AZN | AZERBAIJANI NEW MANAT | 10.6799 | 10.8196
AED | UNITED ARAB EMIRATES DIRHAM | 4.9401 | 5.0047
XDR | SPECIAL DRAWING RIGHT (SDR) | 23.6248 | None
```

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In [ ]:
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