Módulo datetime

Manipulación de valores de fechas y tiempos

import datetime as dt

```
>>> dt
<module 'datetime' from 'C:\\Program Files\\Python37\\lib\\datetime.py'>
>>> dt.datetime
<class 'datetime.datetime'>
```

```
>>> fecha_actual=dt.datetime.today()
>>> type(fecha_actual)
<class 'datetime.datetime'>
```

```
>>> fecha_actual=dt.datetime.today()
>>> fecha_actual
datetime.datetime(2020, 11, 17, 16, 48, 18, 92597)
```

```
>>> fecha_nacimiento=dt.datetime(1996,10,1)
>>> fecha_nacimiento
datetime.datetime(1996, 10, 1, 0, 0)
```

```
>>> tiempo_vivido=fecha_actual-fecha_nacimiento
>>> tiempo_vivido.days
8813

>>> tiempo_vivido.seconds
60498
>>> horas_vividas=tiempo_vivido.days*24+tiempo_vivido.seconds/3600
>>> horas_vividas
211528.805
```

Transformación de "string" a "datetime.datetime"

```
>>> fecha='20201117'
>>> type(fecha)
<class 'str'>
>>> tfecha=dt.datetime.strptime(fecha, '%Y%m%d')
>>> tfecha
datetime.datetime(2020, 11, 17, 0, 0)
>>> type(tfecha)
<class 'datetime.datetime'>
```

Ejemplo de utilización de la librería pandas y el módulo datetime

datos24.csv: Bloc de notas

Archivo Edición Formato Ver Ayuda

```
timestamp,Basilea Temperature [2 m elevation corrected],Basilea Precipitation Total,Basilea Wind Speed [10 m],Basilea Wind Direction [10 m]
20201110T0000,10.240529,0.0,6.6087217,119.35774
20201110T0100,9.680529,0.0,6.792466,122.00538
20201110T0200,9.490529,0.0,7.10031,120.465546
20201110T0300,9.210529,0.0,7.10031,120.465546
20201110T0400,8.820529,0.0,7.289445,122.90524
20201110T0500,8.5505295,0.0,7.5942082,121.429565
20201110T0600,8.340529,0.0,7.9036193,120.06859
20201110T0700,7.7105284,0.0,8.707237,119.74488
20201110T0800,7.3005285,0.0,8.534353,117.64597
20201110T0900,8.230529,0.0,7.5685663,115.34617
20201110T1000,10.830529,0.0,9.0,106.2602
```

```
import pandas as pd
import datetime as dt

tabla = pd.read_csv('datos24.csv')

>>> tabla
       timestamp  ...  Basilea Wind Direction [10 m]
0   20201110T0000  ...                   119.357740
1   20201110T0100  ...                   122.005380
2   20201110T0200  ...                   120.465546
3   20201110T0300  ...                   120.465546
4   20201110T0400  ...                   122.905240
..            ... ...                           ...
187 20201117T1900  ...                   126.253840
188 20201117T2000  ...                   128.659800
189 20201117T2100  ...                   126.253840
190 20201117T2200  ...                   124.508514
191 20201117T2300  ...                   130.914380

[192 rows x 5 columns]
```

```
>>> tabla.shape
(192, 5)
>>> nfilas,ncolumnas=tabla.shape
>>> nfilas
192
>>> ncolumnas
5
```

```
>>> tabla.columns
Index(['timestamp', 'Basilea Temperature [2 m elevation corrected]',
       'Basilea Precipitation Total', 'Basilea Wind Speed [10 m]',
       'Basilea Wind Direction [10 m]'],
      dtype='object')
```

```
>>> tabla['timestamp']
0      20201110T0000
1      20201110T0100
2      20201110T0200
3      20201110T0300
4      20201110T0400
        ...
187    20201117T1900
188    20201117T2000
189    20201117T2100
190    20201117T2200
191    20201117T2300
Name: timestamp, Length: 192, dtype: object

>>> type(tabla['timestamp'])
<class 'pandas.core.series.Series'>

>>> tabla['timestamp'][0]
'20201110T0000'
>>> type(tabla['timestamp'][0])
<class 'str'>
```

```
>>>sfecha_inicial=tabla['timestamp'][0]

>>> sfecha_inicial
'20201110T0000'

tfecha_inicial=dt.datetime.strptime(sfecha_inicial, '%Y%m%dT%H%M')
```