

Universidade Estácio de Sá

- DESENVOLVIMENTO FULL STACK-
- Disciplina: RPG0033 TRATANDO A IMENSIDÃO DOS DADOS
- Semestre Letivo: 2024.2
- Repositorio Git: https://github.com/Gregdev22/Missao-3-Mundo-5
- EMERSON GREGORIO ALVES MATRICULA: 2022.0908.4986

Missão Prática | Nível 3 | Mundo 5 TRATANDO A IMENSIDÃO DOS DADOS

Objetivos da Prática

- Descrever como ler um arquivo CSV usando a biblioteca Pandas (Python);
- Descrever como criar um subconjunto de dados a partir de um conjunto existente usando a biblioteca Pandas (Python);
- Descrever como configurar o número máximo de linhas a serem exibidas na visualização de um conjunto de dados usando a biblioteca Pandas (Python); *Descrever como exibir as primeiras e últimas "N" linhas de um conjunto de dados usando a biblioteca Pandas (Python); Descrever como exibir informações gerais sobre as colunas, linhas e dados de um conjunto de dados usando a biblioteca Pandas (Python);

Códigos

As atividades foram desenvolvidas no Google Colab.

https://github.com/Gregdev22/Missao-3-Mundo-5/blob/main/MP_NV3.ipynb

```
[1] pip install pandas
[2] import pandas as pd
[3] df = pd.read_csv('/content/drive/MyDrive/MP N3.csv', sep=';')
    display(df)
    df.head(4)
    df.tail(4)
Out:
ΙD
        Duration
                         Date
                                 Pulse
                                          Maxpulse
                                                           Calories
        0
                60
                         '2020/12/01'
                                          110
                                                  130
                                                           4091.0
        1
                60
1
                         '2020/12/02'
                                          117
                                                  145
                                                           4790.0
2
        2
                60
                         '2020/12/03'
                                          103
                                                  135
                                                           3400.0
3
        3
                45
                         '2020/12/04'
                                          109
                                                  175
                                                           2824.0
        4
                45
                         '2020/12/05'
                                          117
                                                  148
                                                           4060.0
5
        5
                60
                         '2020/12/06'
                                          102
                                                  127
                                                           3000.0
6
        6
                60
                         '2020/12/07'
                                          110
                                                  136
                                                           3740.0
7
        7
                    450
                         '2020/12/08'
                                          104
                                                  134
                                                           2533.0
        8
8
                30
                         '2020/12/09'
                                          109
                                                  133
                                                           1951.0
9
        9
                60
                         '2020/12/10'
                                          98
                                                  124
                                                           2690.0
        10
10
                60
                         '2020/12/11'
                                          103
                                                  147
                                                           3293.0
11
        11
                60
                                          100
                                                  120
                         '2020/12/12'
                                                           2507.0
12
        12
                60
                                          100
                                                  120
                         '2020/12/12'
                                                           2507.0
13
        13
                60
                                          106
                                                  128
                         '2020/12/13'
                                                           3453.0
14
        14
                60
                                          104
                                                  132
                         '2020/12/14'
                                                           3793.0
15
        15
                60
                         '2020/12/15'
                                          98
                                                  123
                                                           2750.0
16
        16
                60
                         '2020/12/16'
                                          98
                                                  120
                                                           2152.0
17
        17
                60
                         '2020/12/17'
                                          100
                                                  120
                                                           3000.0
                                                  112
18
        18
                45
                         '2020/12/18'
                                          90
                                                          NaN
19
        19
                                          103
                                                  123
                60
                         '2020/12/19'
                                                           3230.0
                                                           2430.0
20
        20
                45
                         '2020/12/20'
                                          97
                                                  125
21
        21
                60
                         '2020/12/21'
                                          108
                                                  131
                                                           3642.0
22
        22
                45
                           NaN
                                           100
                                                  119
                                                           2820.0
                         '2020/12/23'
23
        23
                60
                                          130
                                                  101
                                                           3000.0
24
        24
                45
                         '2020/12/24'
                                         105
                                                  132
                                                           2460.0
25
        25
                60
                         '2020/12/25'
                                         102
                                                  126
                                                           3345.0
26
        26
                60
                         20201226
                                          100
                                                  120
                                                           2500.0
27
        27
                60
                         '2020/12/27'
                                          92
                                                  118
                                                           2410.0
28
        28
                60
                         '2020/12/28'
                                          103
                                                  132
                                                           NaN
29
        29
                         '2020/12/29'
                                          100
                                                  132
                                                           2800.0
                60
30
        30
                                          102
                                                  129
                         '2020/12/30'
                                                           3803.0
31
                                                  115
        31
                         '2020/12/31'
                                          92
                                                           2430.0
ID
                                                           Calories
        Duration
                         Date
                                 Pulse
                                          Maxpulse
0
                60
                         '2020/12/01'
                                                  130
                                                           4091.0
        0
                                          110
1
        1
                60
                         '2020/12/02'
                                          117
                                                  145
                                                           4790.0
2
        2
                60
                         '2020/12/03'
                                          103
                                                  135
                                                           3400.0
3
                         '2020/12/04'
                                          109
                                                  175
                                                           2824.0
                4.5
ID
        Duration
                                                          Calories
                         Date
                                 Pulse
                                          Maxpulse
                60
                         '2020/12/28'
                                                  132
28
        2.8
                                          103
                                                           NaN
```

```
      29
      60
      '2020/12/29'
      100
      132
      2800.0

      30
      30
      60
      '2020/12/30'
      102
      129
      3803.0

      31
      31
      60
      '2020/12/31'
      92
      115
      2430.0
```

[4] df_copia = df.copy()
 df_copia['Calories'] = df_copia['Calories'].fillna(0)
 display(df_copia)

Out:

ID	Duratio	n	Date	Pulse	Maxpuls	е	Calories
0	0	60	' 2020/1		110	130	4091.0
1	1	60	'2020/1	12/02'	117	145	4790.0
2	2	60	'2020/1	12/03'	103	135	3400.0
3	3	45	'2020/1	12/04'	109	175	2824.0
4	4	45	' 2020/1	12/05'	117	148	4060.0
5	5	60	'2020/1	12/06'	102	127	3000.0
6	6	60	'2020/1	L2/07 '	110	136	3740.0
7	7	450	'2020/1	12/08'	104	134	2533.0
8	8	30	'2020/1	12/09 '	109	133	1951.0
9	9	60	' 2020/1	12/10'	98	124	2690.0
10	10	60	' 2020/1	12/11'	103	147	3293.0
11	11	60	' 2020/1	12/12'	100	120	2507.0
12	12	60	'2020/1	l2/12 '	100	120	2507.0
13	13	60	' 2020/1	12/13'	106	128	3453.0
14	14	60	'2020/1	12/14'	104	132	3793.0
15	15	60	'2020/1	l2/15 '	98	123	2750.0
16	16	60	'2020/1	12/16'	98	120	2152.0
17	17	60	'2020/1	L2/17 '	100	120	3000.0
18	18	45	'2020/1	12/18'	90	112	0.0
19	19	60	'2020/1	l2/19 '	103	123	3230.0
20	20	45	' 2020/1	12/20'	97	125	2430.0
21	21	60	' 2020/1	12/21'	108	131	3642.0
22	22	45		NaN	100	119	2820.0
23	23	60	'2020/1	12/23'	130	101	3000.0
24	24	45	'2020/1	12/24'	105	132	2460.0
25	25	60	' 2020/1	l2/25 '	102	126	3345.0
26	26	60	2020122	26	100	120	2500.0
27	27	60	' 2020/1	L2/27 '	92	118	2410.0
28	28	60	' 2020/1	l2/28'	103	132	0.0
29	29	60	' 2020/1	l2/29 '	100	132	2800.0
30	30	60	' 2020/1		102	129	3803.0
31	31	60	' 2020/1	12/31'	92	115	2430.0

	ID	Duratio	n Date	Pulse	Maxpuls	se	Calories
0	0	60	'2020/12/01'	110	130	4091.0	
1	1	60	'2020/12/02'	117	145	4790.0	
2	2	60	'2020/12/03'	103	135	3400.0	
3	3	45	'2020/12/04'	109	175	2824.0	
4	4	45	'2020/12/05'	117	148	4060.0	
5	5	60	'2020/12/06'	102	127	3000.0	
6	6	60	'2020/12/07'	110	136	3740.0	
7	7	450	'2020/12/08'	104	134	2533.0	
8	8	30	'2020/12/09'	109	133	1951.0	
9	9	60	'2020/12/10'	98	124	2690.0	
10	10	60	'2020/12/11'	103	147	3293.0	

```
11
        11 60
                            '2020/12/12' 100 120
                                                                 2507.0
       11 60 12 60 13 60 14 60 15 60 16 60 17 60 18 45 19 60 20 45 21 60 22 45 23 60 24 45 25 60 26 60 27 60 28 60 29 60 30 30 60 31 60
                            '2020/12/12' 100
                                                        120
12
        12
                 60
                                                                  2507.0
                          '2020/12/13' 106 128
'2020/12/14' 104 132
'2020/12/15' 98 123
'2020/12/16' 98 120
13
                                                                  3453.0
14
                                                                  3793.0
15
                                                                  2750.0
16
                                                                 2152.0
                          '2020/12/17' 100 120
'2020/12/18' 90 112
17
                                                                  3000.0
                          '2020/12/18' 50
'2020/12/19' 103 123
'30/20' 97 125
                                                                 0.0
18
                                                                  3230.0
19
                                                                  2430.0
20
                           '2020/12/21' 108
1900/01/01 100
                                                        131
                                                                  3642.0
21
                           1900/01/01
                                                        119
                                                                  2820.0
22
                          '2020/12/25' 105
'2020/12/25' 102 126
'201226 100 120
92 118
                                                                  3000.0
23
                                                                  2460.0
24
                                                                  3345.0
25
                                                                  2500.0
26
                                                                  2410.0
27
                           '2020/12/28' 103
                                                        132
                                                                  0.0
28
                           '2020/12/29' 100
                                                        132
                                                                  2800.0
29
                  60 '2020/12/30' 102
60 '2020/12/31' 92
                                                        129
                                                                   3803.0
30
                                                        115
                                                                 2430.0
31
[6] df copia['Date'] = pd.to datetime(df copia['Date'])
     display(df copia)
```

Out:

```
-----
```

4 frames

/usr/local/lib/python3.10/distpackages/pandas/_libs/tslibs/strptime.pyx in pandas. libs.tslibs.strptime.array strptime()

ValueError: time data "1900/01/01" doesn't match format "'Y/m/d'", at position 22. You might want to try:

- passing `format` if your strings have a consistent format;
- passing `format='ISO8601'` if your strings are all ISO8601 but not necessarily in exactly the same format;
- passing `format='mixed'`, and the format will be inferred for each element individually. You might want to use `dayfirst` alongside this.

ID	Dura	tion	Date	Pulse	Maxpu	lse	Calories
0	0	60	' 2020/	12/01'	110	130	4091.0
1	1	60	' 2020/	12/02'	117	145	4790.0
2	2	60	' 2020/	12/03'	103	135	3400.0
3	3	45	' 2020/	12/04'	109	175	2824.0
4	4	45	' 2020/	12/05'	117	148	4060.0
5	5	60	' 2020/	12/06'	102	127	3000.0

```
60
                              '2020/12/07' 110 136
6
                                                                    3740.0
7
                              '2020/12/08' 104
         7
                  450
                                                           134
                                                                     2533.0

      8
      30

      9
      60

      10
      60

      11
      60

      12
      60

      13
      60

      14
      60

      15
      60

      16
      60

      17
      60

      18
      45

      19
      60

      20
      45

      21
      60

      22
      45

      23
      60

      24
      45

      25
      60

      26
      60

      27
      60

      28
      60

      29
      60

      30
      60

      31
      60

                              '2020/12/09' 109 133
'2020/12/10' 98 124
8
                                                                     1951.0
9 10
                                                                     2690.0
                            '2020/12/11' 103
                                                           147
                                                                     3293.0
                            '2020/12/12' 100
                                                           120
                                                                     2507.0
                            '2020/12/12' 100
12
                                                           120
                                                                     2507.0
12
13
14
                            '2020/12/13' 106
                                                           128
                                                                     3453.0
                            '2020/12/14' 104
                                                           132
                                                                     3793.0
                            '2020/12/15' 98
'2020/12/16' 98
                                                           123
                                                                     2750.0
15
                                                           120
                                                                     2152.0
16
                            '2020/12/17' 100
                                                           120
                                                                     3000.0
17
                                                           112
                                                                     0.0
                            '2020/12/18' 90
18
                            '2020/12/19' 103
                                                           123
                                                                     3230.0
19
                                                           125
                                                                     2430.0
                            '2020/12/20' 97
20
                            '2020/12/21' 108
                                                           131
                                                                      3642.0
21
                                              119
                                                           2820.0
22
                            NaN 100
                              '2020/12/23'
                                                  130
                                                           101 3000.0
23
                                                                     2460.0
                            '2020/12/24' 105
                                                           132
24
                            '2020/12/25' 102
                                                                      3345.0
25
                                                           126
                                               100
                            20201226
                                                           120
                                                                     2500.0
26
                              '2020/12/27'
                                                           118
27
                                                 92
                                                                      2410.0
                        '2020/12/28' 103 132
'2020/12/29' 100 132
'2020/12/30' 102 129
'2020/12/31' 92 115
28
                                                                     2800.0
29
30
                                                                      3803.0
31
                                                           115
                                                                    2430.0
[8] df copia['Date'] = pd.to datetime(df copia['Date'])
     display(df copia)
O11t:
ValueError
                                                       Traceback (most recent call
last)
<ipython-input-29-2d20429ac12b> in <cell line: 1>()
----> 1 df_copia['Date'] = pd.to_datetime(df_copia['Date'])
        2 display(df copia)
4 frames
/usr/local/lib/python3.10/dist-
packages/pandas/ libs/tslibs/strptime.pyx in
pandas. libs.tslibs.strptime.array strptime()
ValueError: time data "20201226" doesn't match format "'%Y/%m/%d'", at
position 26. You might want to try:
     - passing `format` if your strings have a consistent format;
     - passing `format='ISO8601'` if your strings are all ISO8601 but
not necessarily in exactly the same format;
     - passing `format='mixed'`, and the format will be inferred for
each element individually. You might want to use `dayfirst` alongside
this.
[9] df copia['Date'] =
df copia['Date'].replace('20201226',"'2020/12/26'")
     df copia['Date'] = pd.to datetime(df copia['Date'])
     display(df copia)
```

ID	Duration		Date Pulse		Maxpuls	Calories	
0	0	60	2020-1	2-01	110	130	4091.0
1	1	60	2020-1	2-02	117	145	4790.0
2	2	60	2020-1	2-03	103	135	3400.0
3	3	45	2020-1	2-04	109	175	2824.0
4	4	45	2020-1	2-05	117	148	4060.0
5	5	60	2020-1	2-06	102	127	3000.0
6	6	60	2020-1	2-07	110	136	3740.0
7	7	450	2020-1	2-08	104	134	2533.0
8	8	30	2020-1	2-09	109	133	1951.0
9	9	60	2020-1	2-10	98	124	2690.0
10	10	60	2020-1	2-11	103	147	3293.0
11	11	60	2020-1	2-12	100	120	2507.0
12	12	60	2020-1	2-12	100	120	2507.0
13	13	60	2020-1	2-13	106	128	3453.0
14	14	60	2020-1	2-14	104	132	3793.0
15	15	60	2020-1	2-15	98	123	2750.0
16	16	60	2020-1	2-16	98	120	2152.0
17	17	60	2020-1	2-17	100	120	3000.0
18	18	45	2020-1	2-18	90	112	0.0
19	19	60	2020-1	2-19	103	123	3230.0
20	20	45	2020-1	2-20	97	125	2430.0
21	21	60	2020-1	2-21	108	131	3642.0
22	22	45	NaT	100	119	2820.0	
23	23	60	2020-1	2-23	130	101	3000.0
24	24	45	2020-1	2-24	105	132	2460.0
25	25	60	2020-1	2-25	102	126	3345.0
26	26	60	2020-1	2-26	100	120	2500.0
27	27	60	2020-1	2-27	92	118	2410.0
28	28	60	2020-1	2-28	103	132	0.0
29	29	60	2020-1	2-29	100	132	2800.0
30	30	60	2020-1	2-30	102	129	3803.0
31	31	60	2020-1	2-31	92	115	2430.0

[10] df_copia.dropna(inplace=True)

[11] display(df_copia)

ID	Duratio	on	Date	Pulse	Maxpuls	е	Calories
0	0	60	2020-12	2-01	110	130	4091.0
1	1	60	2020-12	2-02	117	145	4790.0
2	2	60	2020-12	2-03	103	135	3400.0
3	3	45	2020-12	2-04	109	175	2824.0
4	4	45	2020-12	2-05	117	148	4060.0
5	5	60	2020-12	2-06	102	127	3000.0
6	6	60	2020-12	2-07	110	136	3740.0
7	7	450	2020-12	2-08	104	134	2533.0
8	8	30	2020-12	2-09	109	133	1951.0
9	9	60	2020-12	2-10	98	124	2690.0
10	10	60	2020-12	2-11	103	147	3293.0
11	11	60	2020-12	2-12	100	120	2507.0
12	12	60	2020-12	2-12	100	120	2507.0
13	13	60	2020-12	2-13	106	128	3453.0
14	14	60	2020-12	2-14	104	132	3793.0
15	15	60	2020-12	2-15	98	123	2750.0
16	16	60	2020-12	2-16	98	120	2152.0
17	17	60	2020-12	2-17	100	120	3000.0
18	18	45	2020-12	2-18	90	112	0.0

19	19	60	2020-12-19	103	123	3230.0
20	20	45	2020-12-20	97	125	2430.0
21	21	60	2020-12-21	108	131	3642.0
23	23	60	2020-12-23	130	101	3000.0
24	24	45	2020-12-24	105	132	2460.0
25	25	60	2020-12-25	102	126	3345.0
26	26	60	2020-12-26	100	120	2500.0
27	27	60	2020-12-27	92	118	2410.0
28	28	60	2020-12-28	103	132	0.0
29	29	60	2020-12-29	100	132	2800.0
30	30	60	2020-12-30	102	129	3803.0
31	31	60	2020-12-31	92	115	2430.0

Bade de Dados:

```
ID; Duration; Date; Pulse; Maxpulse; Calories
0;60;'2020/12/01';110;130;4091
1;60;'2020/12/02';117;145;4790
2;60;'2020/12/03';103;135;3400
3;45;'2020/12/04';109;175;2824
4;45;'2020/12/05';117;148;4060
5;60;'2020/12/06';102;127;3000
6;60;'2020/12/07';110;136;3740
7;450;'2020/12/08';104;134;2533
8;30;'2020/12/09';109;133;1951
9;60;'2020/12/10';98;124;2690
10;60;'2020/12/11';103;147;3293
11;60;'2020/12/12';100;120;2507
12;60;'2020/12/12';100;120;2507
13;60;'2020/12/13';106;128;3453
14;60;'2020/12/14';104;132;3793
15;60;'2020/12/15';98;123;2750
16;60;'2020/12/16';98;120;2152
17:60:'2020/12/17';100;120;3000
```

- 18;45;'2020/12/18';90;112;NaN
- 19;60;'2020/12/19';103;123;3230
- 20;45;'2020/12/20';97;125;2430
- 21;60;'2020/12/21';108;131;3642
- 22;45;NaN;100;119;2820
- 23;60;'2020/12/23';130;101;3000
- 24;45;'2020/12/24';105;132;2460
- 25;60;'2020/12/25';102;126;3345
- 26;60;20201226;100;120;2500
- 27;60;'2020/12/27';92;118;2410
- 28;60;'2020/12/28';103;132;NaN
- 29;60;'2020/12/29';100;132;2800
- 30:60;'2020/12/30';102;129;3803
- 31;60;'2020/12/31';92;115;2430