UNIVERSIDAD AUTÓNOMA DE BAJA CALIFORNIA

FACULTAD DE CIENCIAS

Práctica de Laboratorio 2

PRESENTA

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361075

PROFESOR

Selene Solorza Calderón

ASIGNATURA

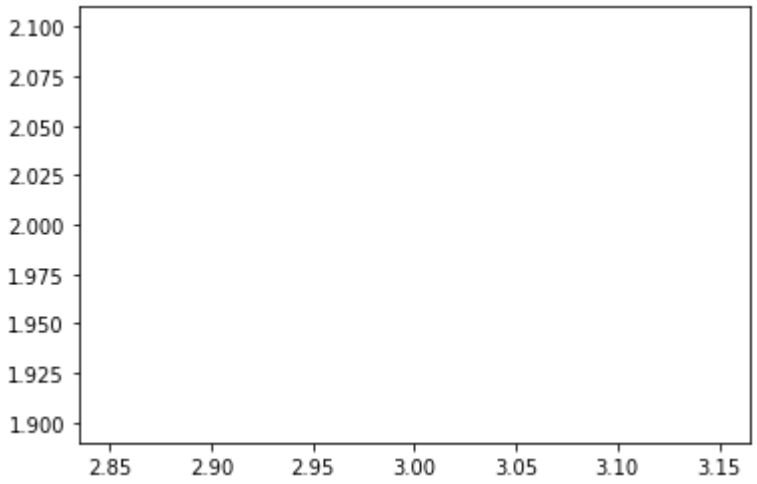
Métodos Numéricos

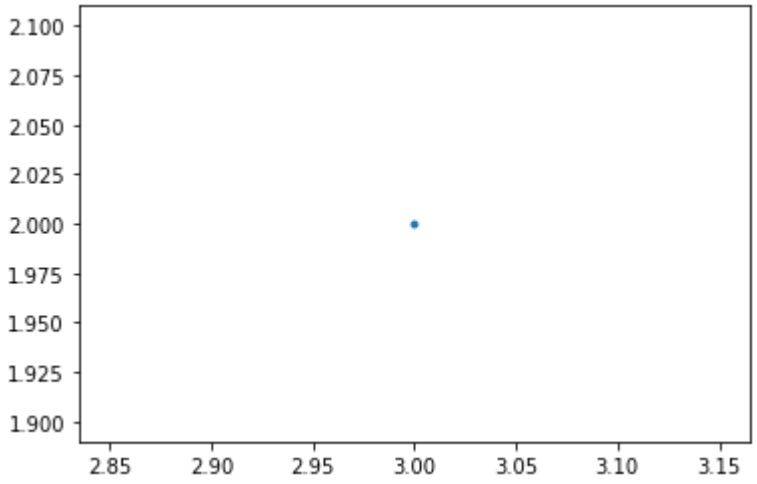
18 de febrero de 2022

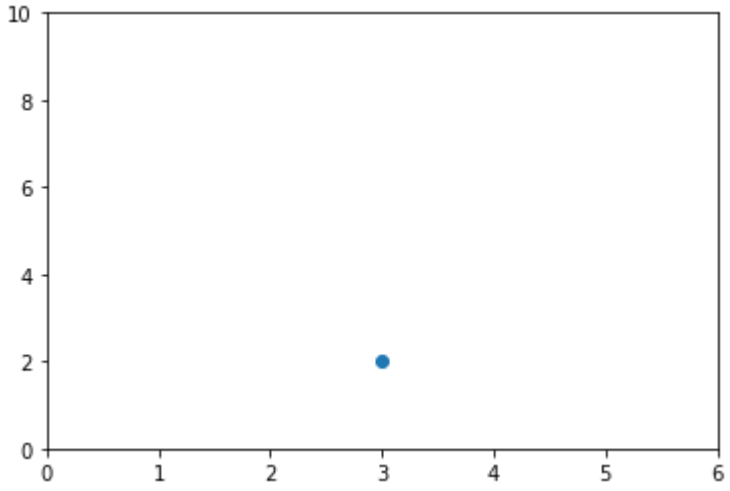
Graficando con matplotlib

Puedes mostrar figuras usando `%matplotlib notebook` y `%matplotlib inline`.

`%matplotlib notebook` proporciona un ambiente interactivo.



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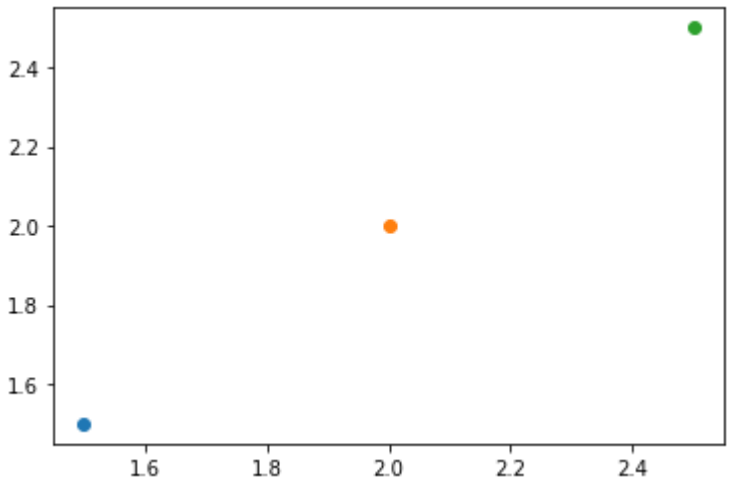
6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1.8
1.6
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2.4

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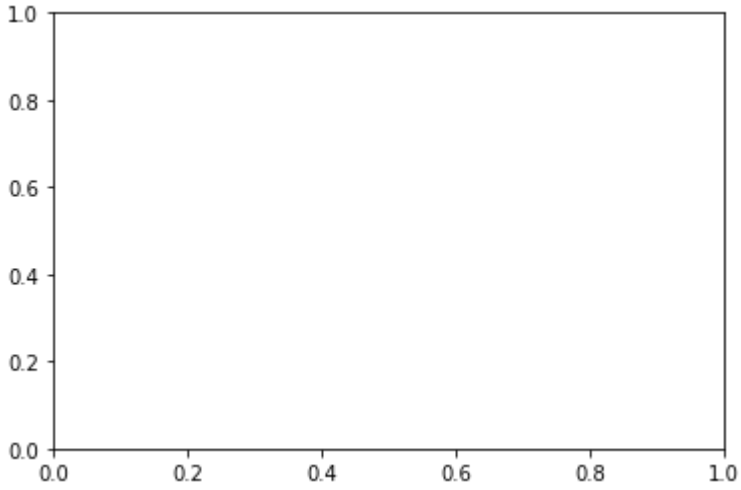
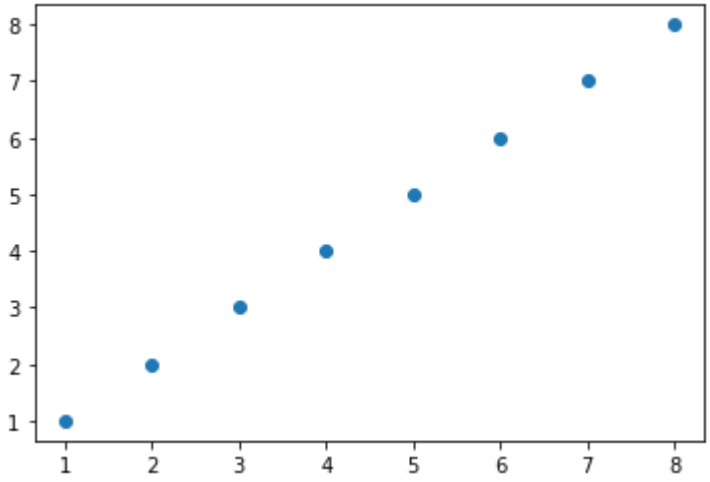
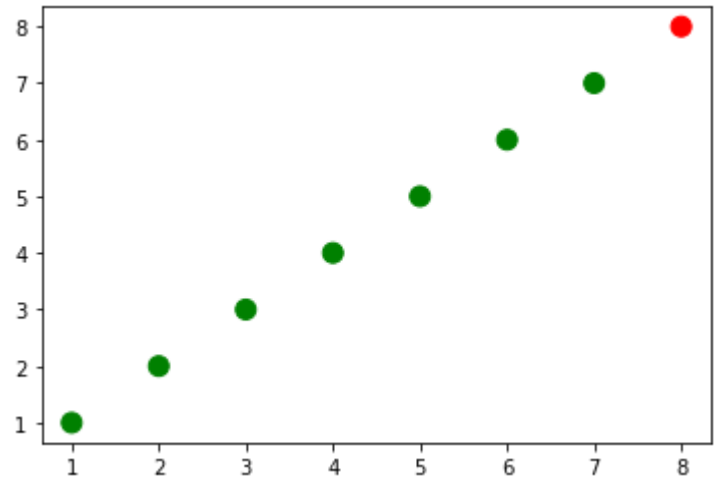


Gráficos de dispersión



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[(1, 6), (2, 7), (3, 8), (4, 9), (5, 10)]
(1, 6) (2, 7) (3, 8) (4, 9) (5, 10)
```

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(1, 2, 3, 4, 5)
(6, 7, 8, 9, 10)
```
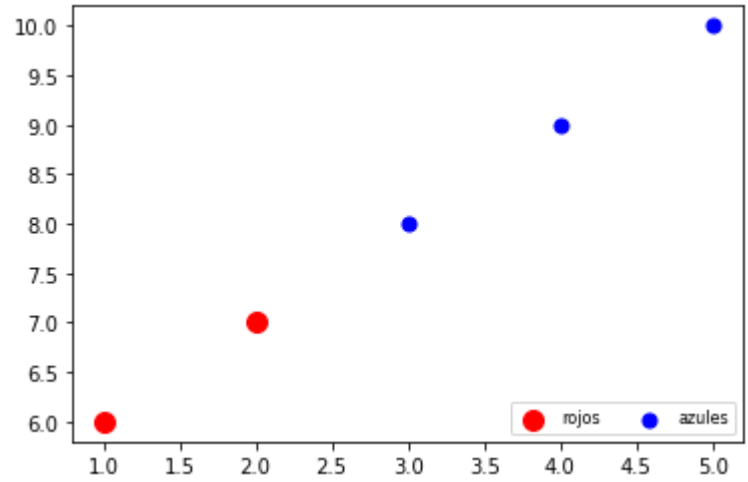
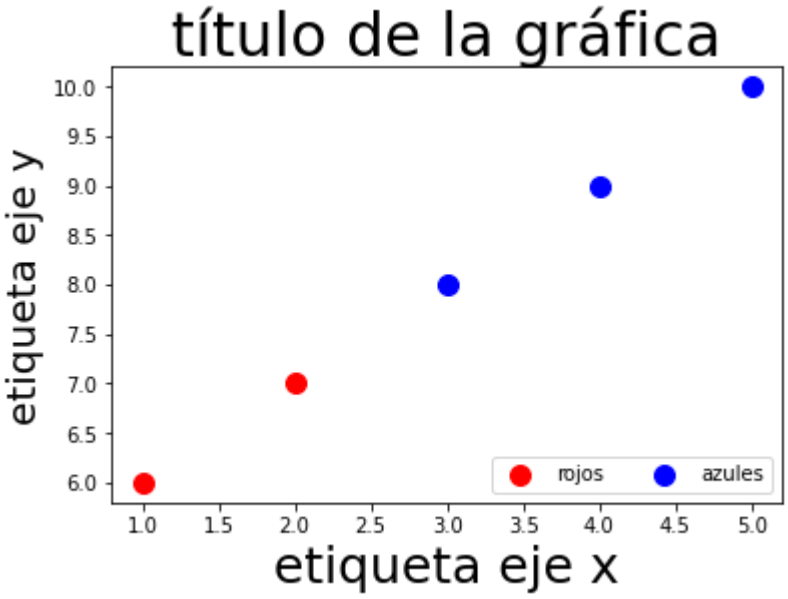
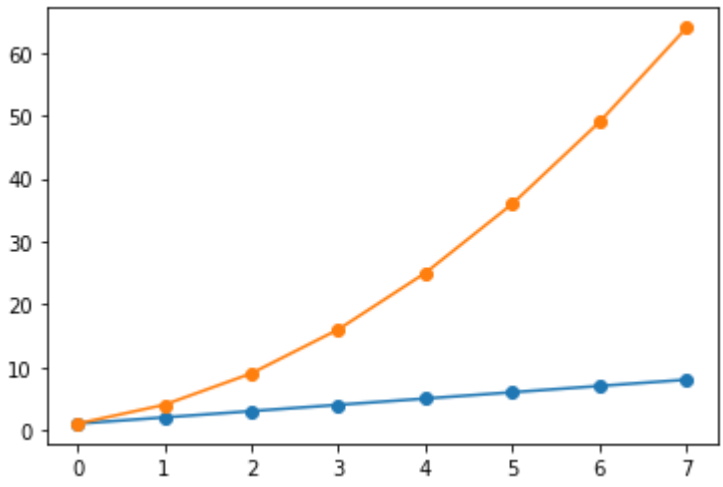
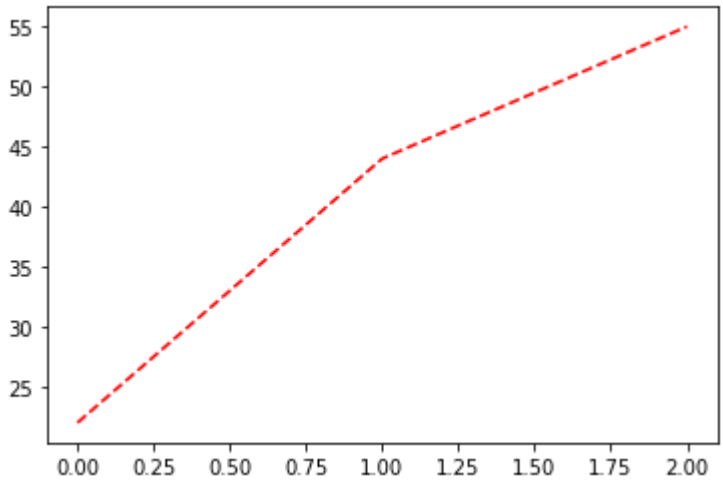
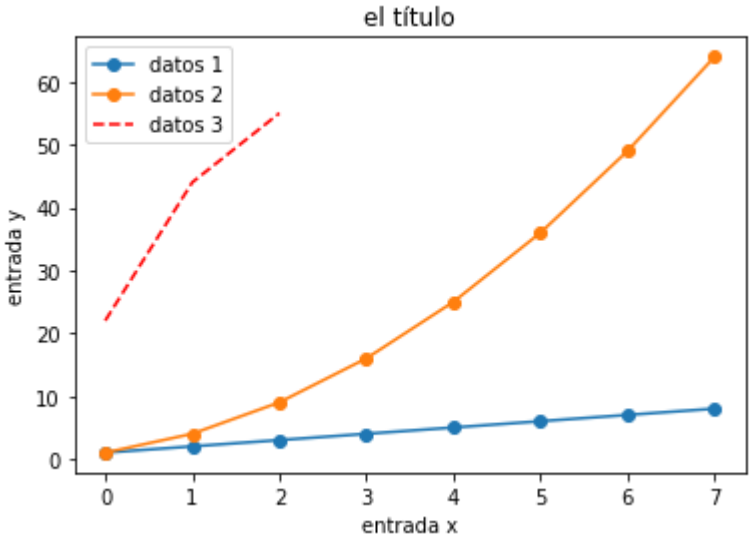





Gráficas de líneas



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datos 3
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entrada x
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4
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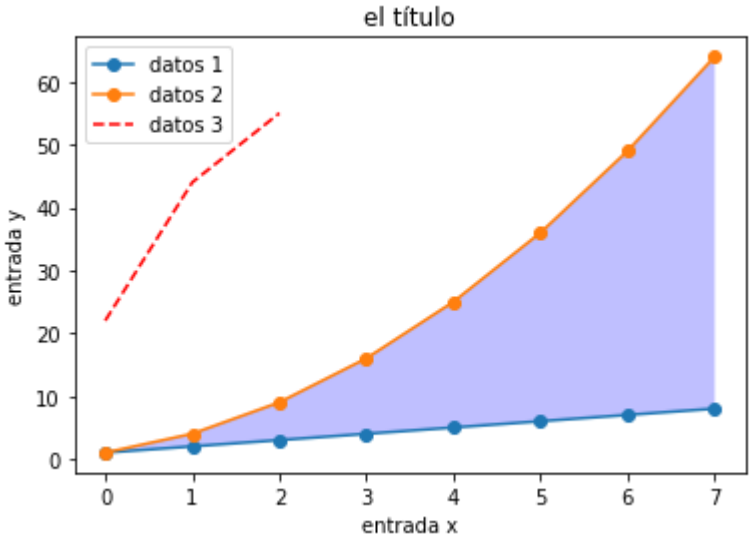
6
7


el título
datos 1
datos 2
datos 3
entrada y
entrada x
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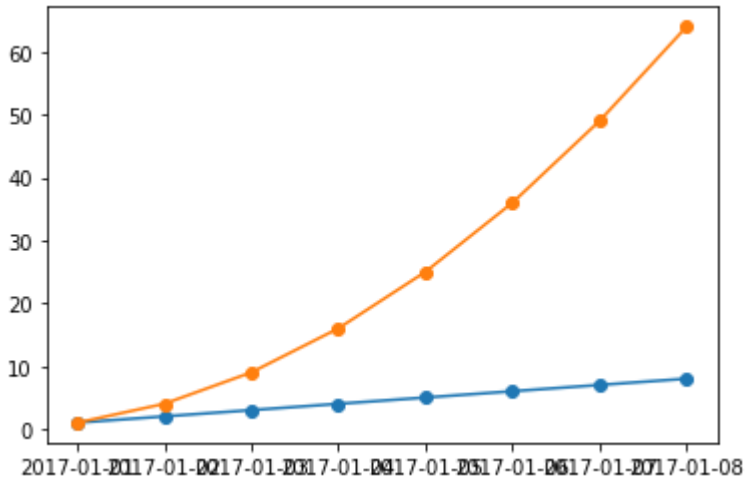
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2017-01-02
2017-01-03
2017-01-04
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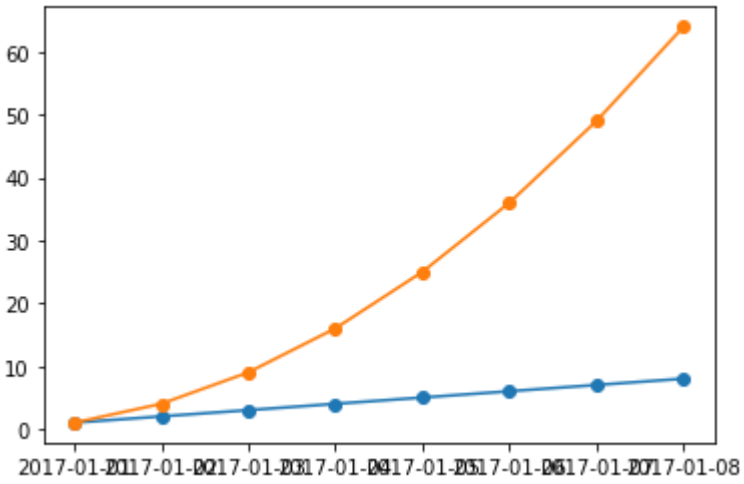
2017-01-07
2017-01-08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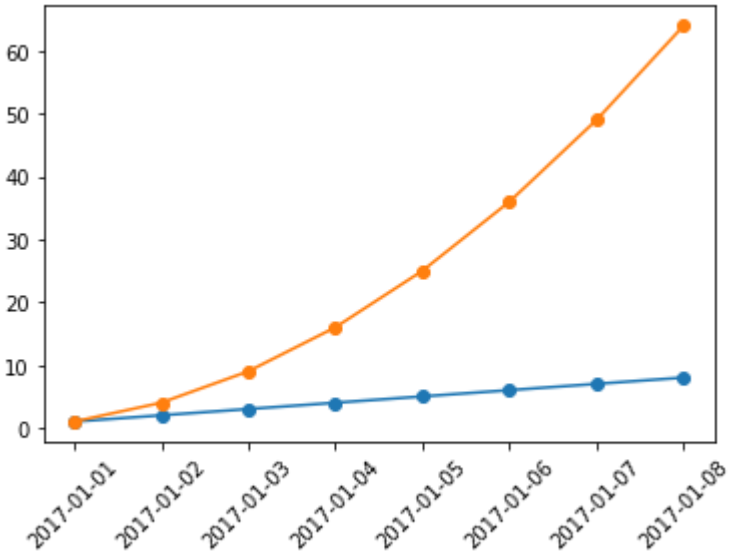
2017-01-08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2017-01-01
2017-01-02
2017-01-03
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2017-01-05
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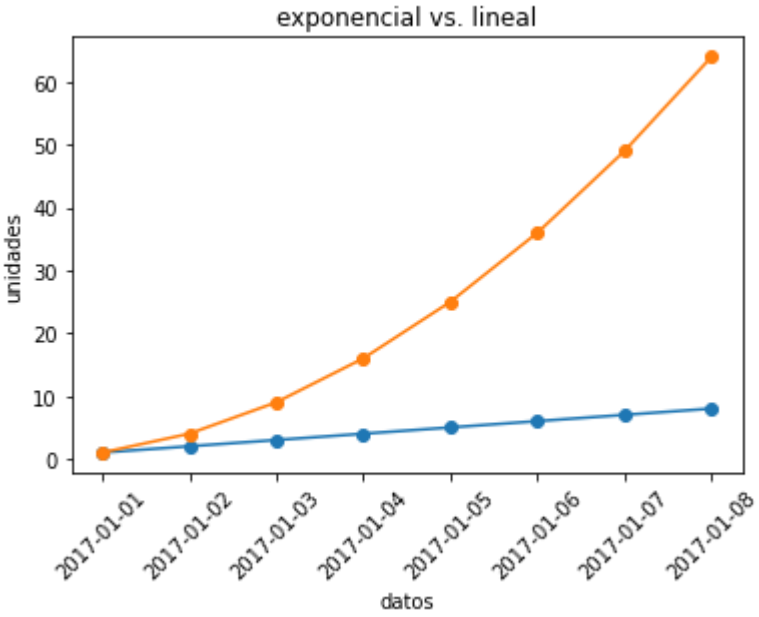
exponencial vs. lineal
unidades
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0
2017-01-01
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2017-01-03
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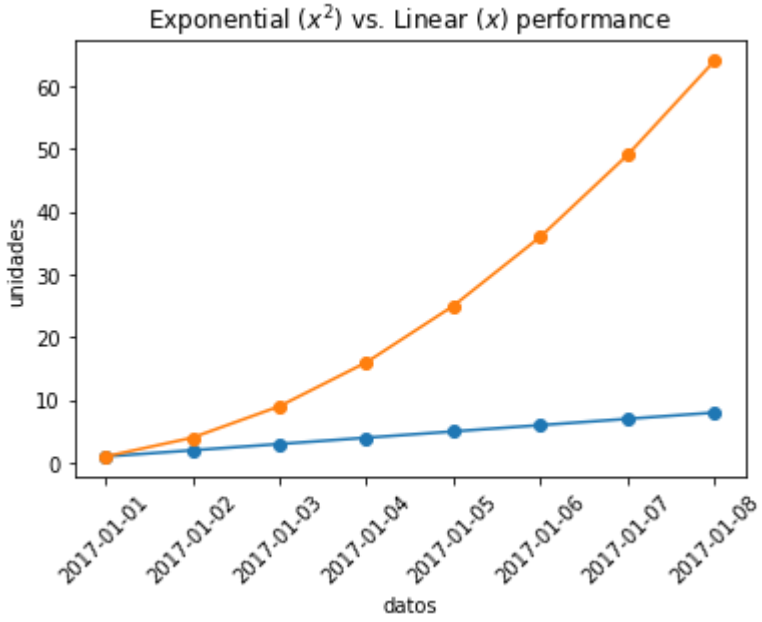
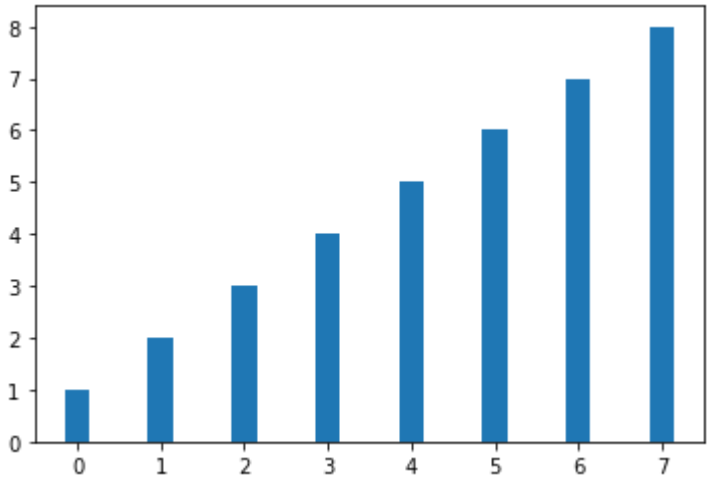
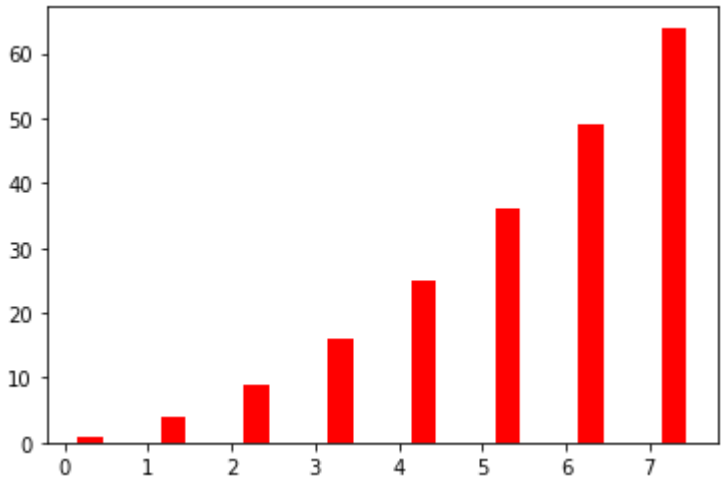
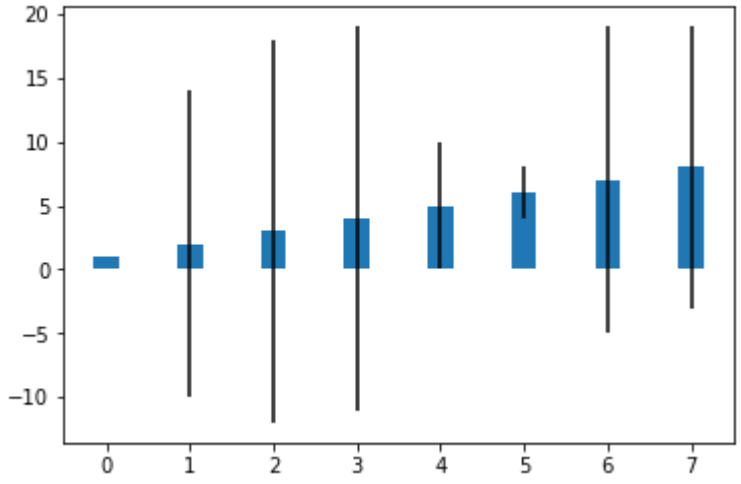
2017-01-08
datos



Gráficos de barras



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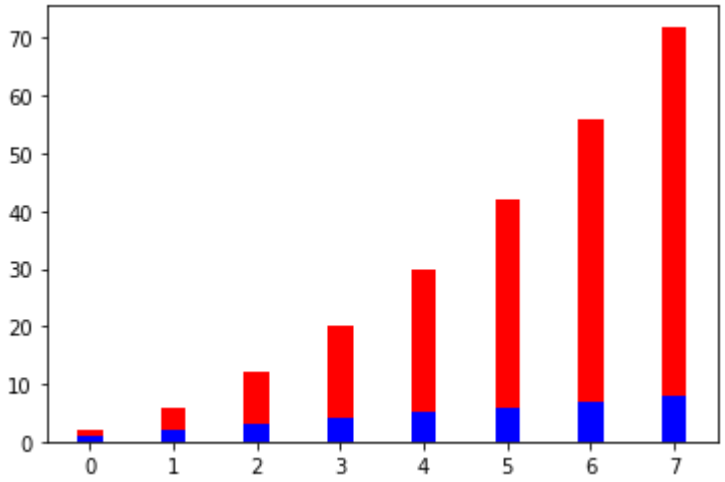
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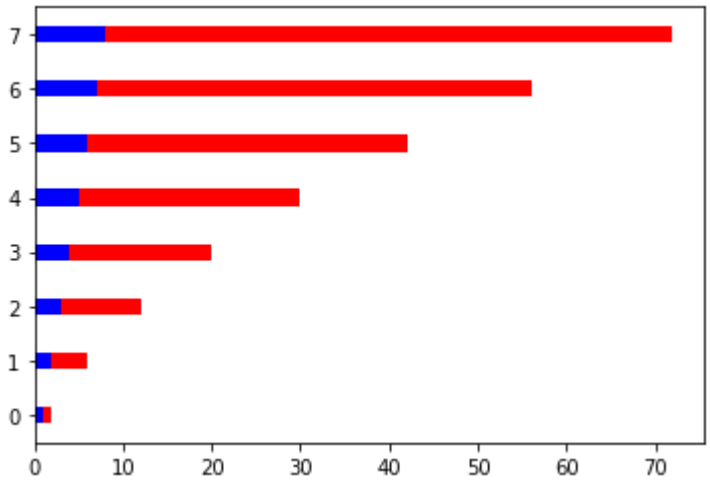
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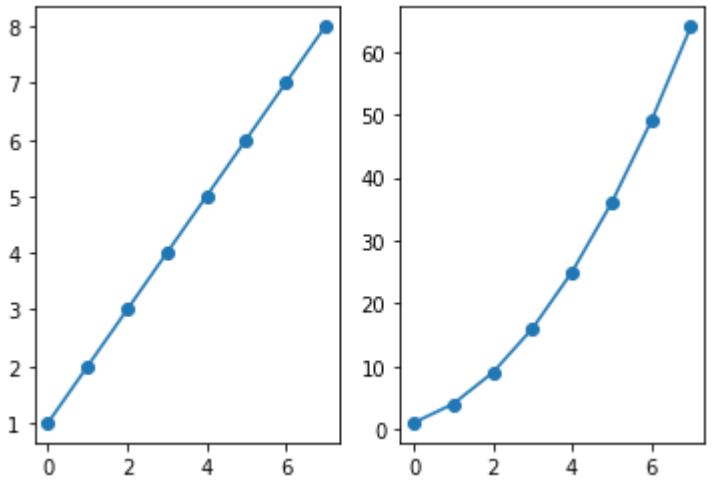
70

Subplots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30
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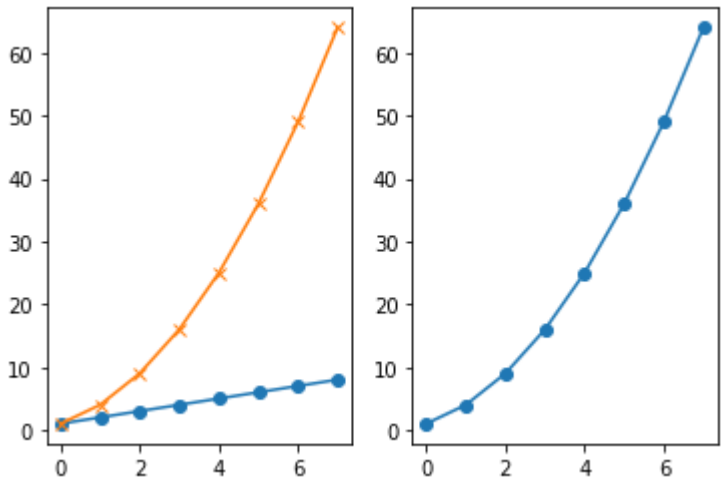
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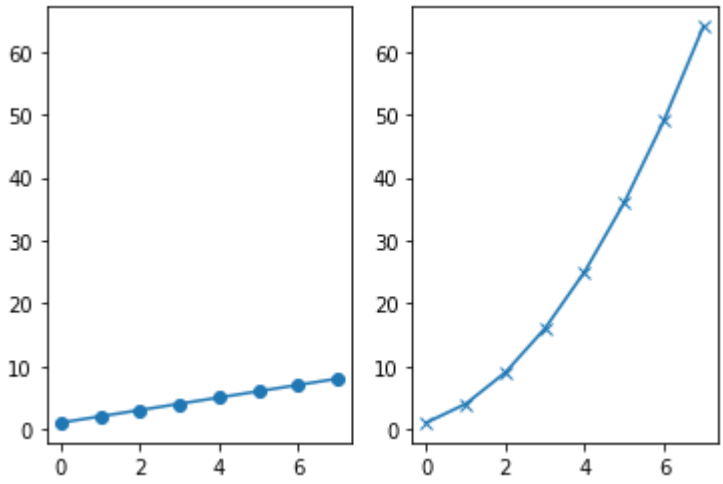
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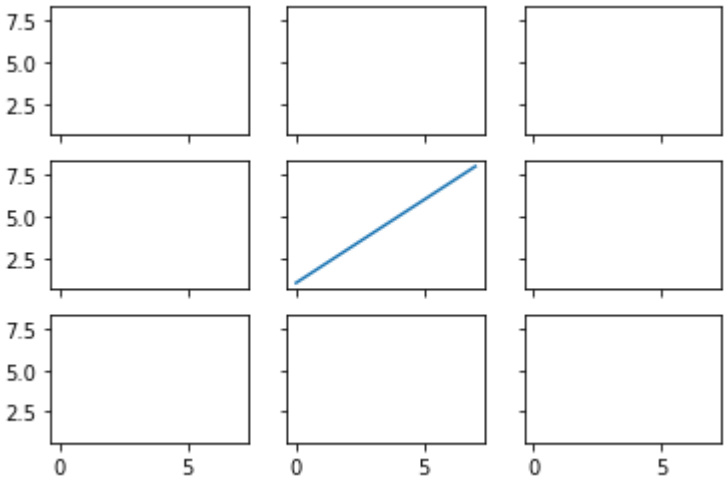
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2.5
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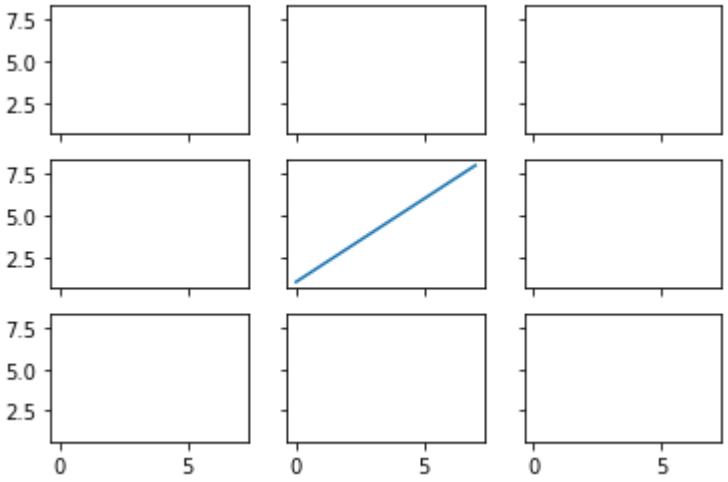
7.5
5.0
2.5
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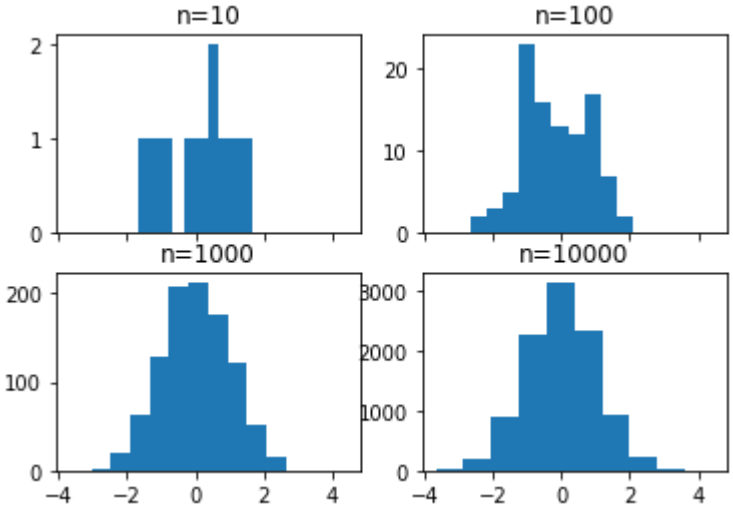
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100
3000
2000
1000
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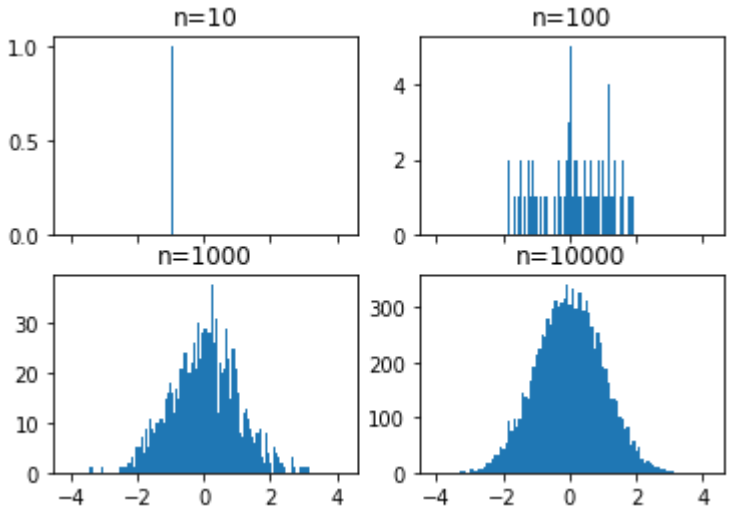
−2
0
2
4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n=100
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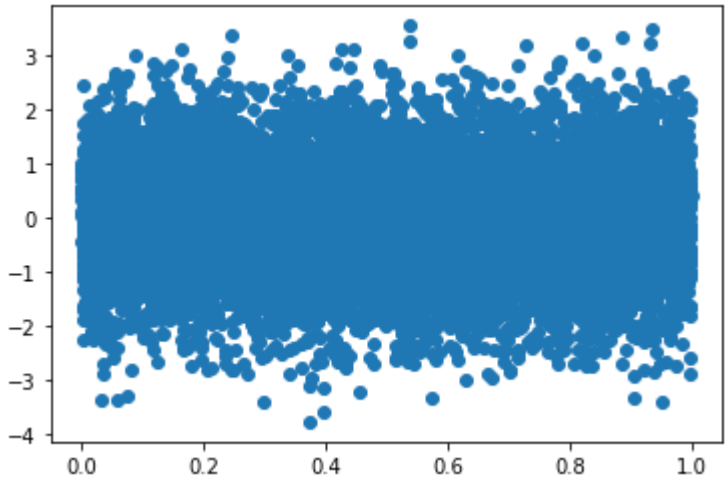

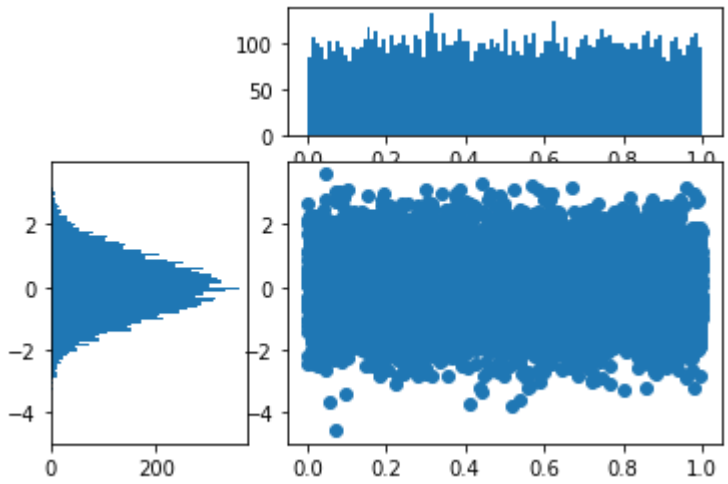

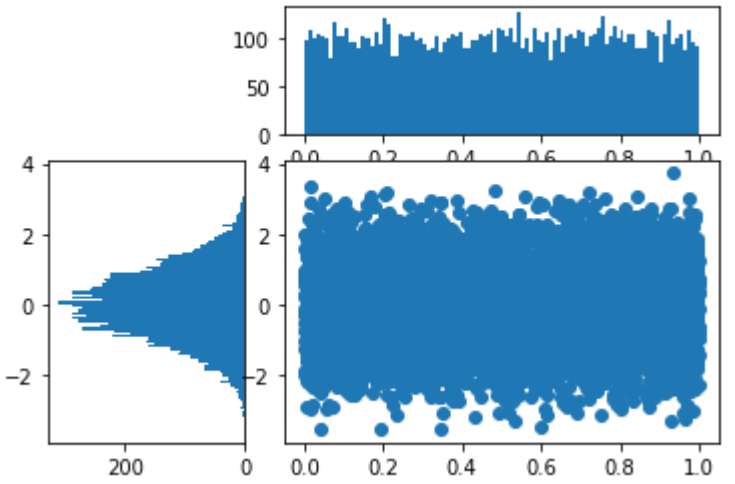

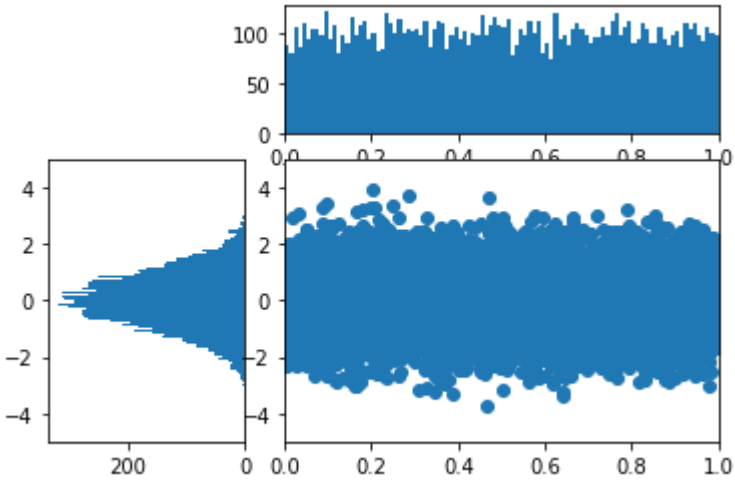

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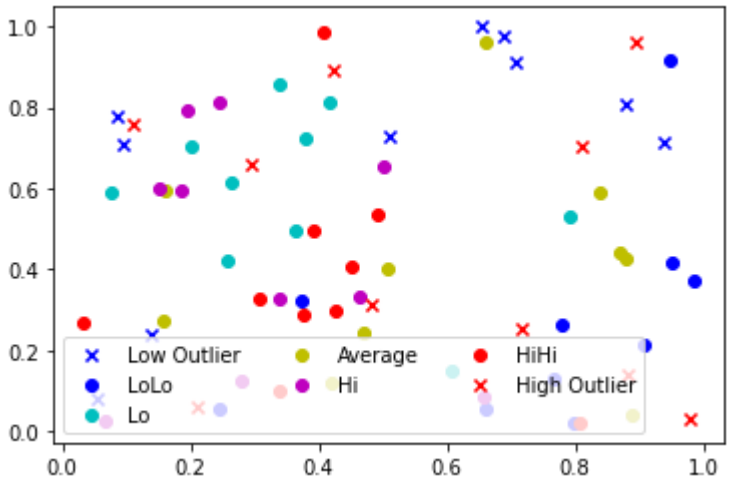
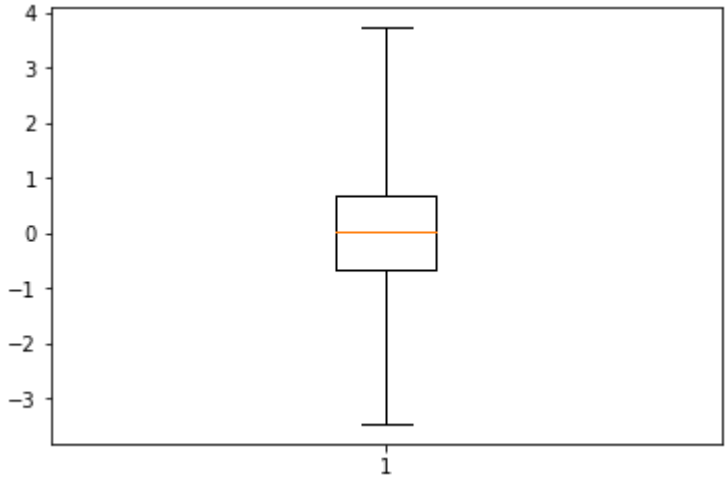
mean	0.003613	0.500469	2.031089
std	0.991101	0.287586	1.418232
min	-3.460856	0.000009	0.015029
25%	-0.677926	0.253964	0.982101
50%	0.010940	0.501714	1.698788
75%	0.665235	0.744978	2.743632
max	3.729262	0.999889	12.432335


Low Outlier
LoLo
Lo
Average
Hi
HiHi
High Outlier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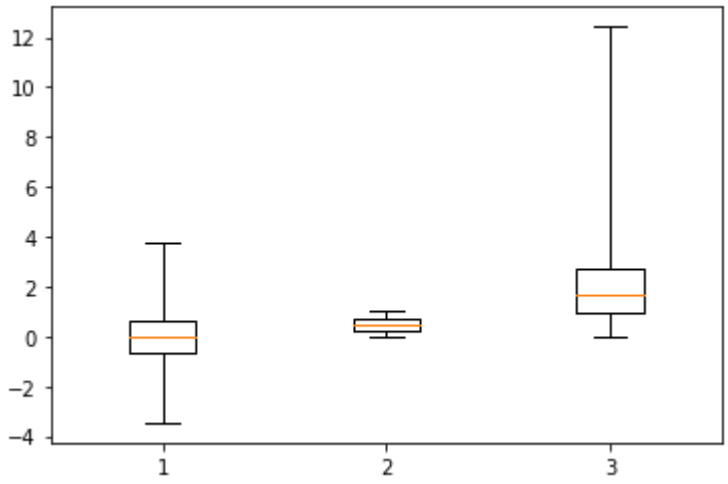
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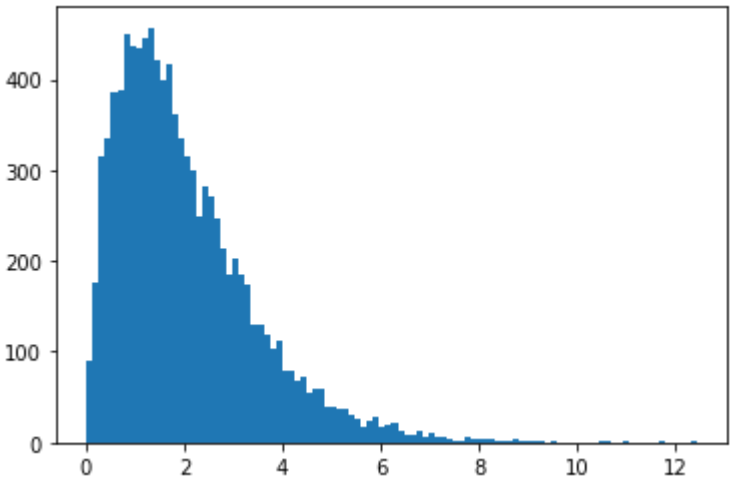
2
3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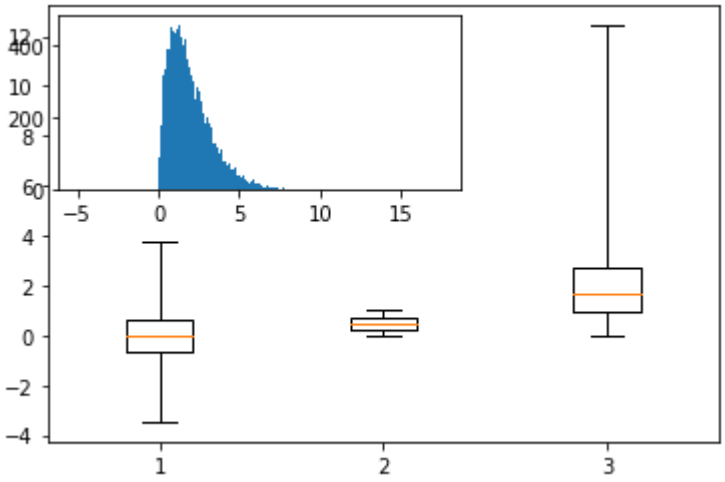
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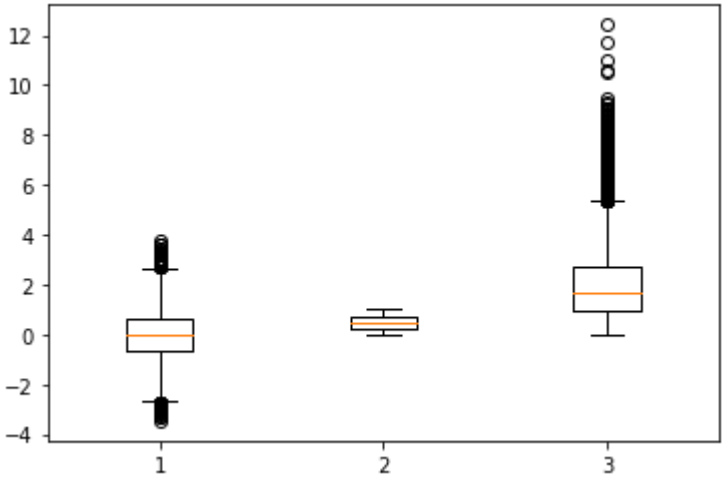
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10
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4
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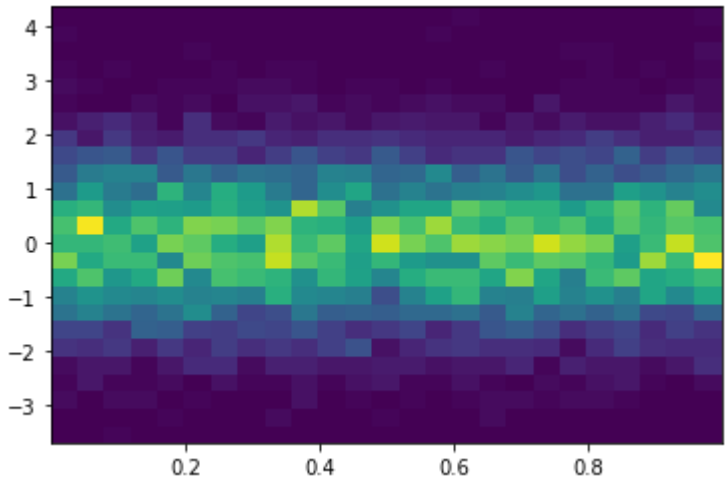
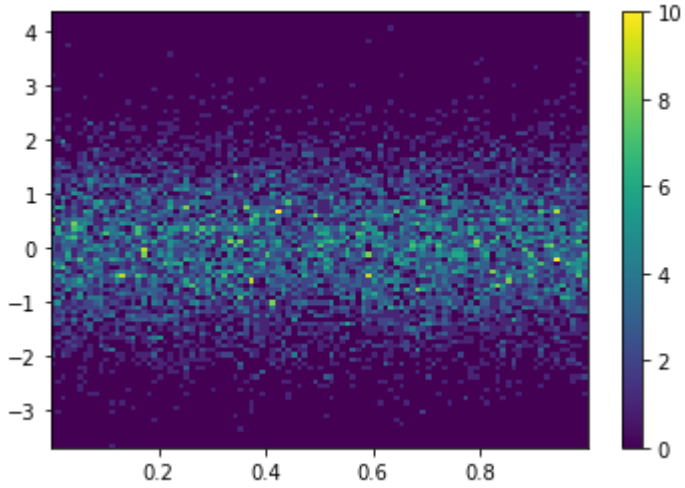
0
−2
−4
1
2
3





Datos Estructurados

```
0    tigre
1      oso
2    ratón
dtype: object
```

```
0    1
1    2
2    3
dtype: int64
```

```
0    tigre
1      oso
2     None
dtype: object
```

```
0    1.0
1    2.0
2    NaN
dtype: float64
```

```
False
```

```
True
```

```
tiro al arco           Bhutan
golf                  Escocia
sumo                    Japón
taekwondo       Corea del Sur
dtype: object
```

```
Index(['tiro al arco', 'golf', 'sumo', 'taekwondo'], dtype='object')
```

```
India      tigre
America      oso
Canada     ratón
dtype: object
```

```
golf      Escocia
sumo        Japón
hockey        NaN
dtype: object
```

```
tiro al arco           Bhutan
golf                  Escocia
sumo                    Japón
taekwondo       Corea del Sur
dtype: object
```

```
'Corea del Sur'
```

```
'Escocia'
```

```
'Corea del Sur'
```

```
'Escocia'
```

```
---------------------------------------------------------------------
----
KeyError                                  Traceback (most recent call l
ast)
/usr/local/lib/python3.7/dist-packages/pandas/core/indexes/base.py in g
et_loc(self, key, method, tolerance)
   3360             try:
-> 3361                 return self._engine.get_loc(casted_key)
   3362             except KeyError as err:

/usr/local/lib/python3.7/dist-packages/pandas/_libs/index.pyx in panda
s._libs.index.IndexEngine.get_loc()

/usr/local/lib/python3.7/dist-packages/pandas/_libs/index.pyx in panda
s._libs.index.IndexEngine.get_loc()

pandas/_libs/hashtable_class_helper.pxi in pandas._libs.hashtable.Int64
HashTable.get_item()

pandas/_libs/hashtable_class_helper.pxi in pandas._libs.hashtable.Int64
HashTable.get_item()

KeyError: 0

The above exception was the direct cause of the following exception:

KeyError                                  Traceback (most recent call l
ast)
<ipython-input-83-1e96c7af187c> in <module>()
      5 s=pd.Series(sports)
      6 #Se espera mensaje de error
----> 7 s[0]

/usr/local/lib/python3.7/dist-packages/pandas/core/series.py in __getit
em__(self, key)
    940
    941         elif key_is_scalar:
--> 942             return self._get_value(key)
    943
    944         if is_hashable(key):

/usr/local/lib/python3.7/dist-packages/pandas/core/series.py in _get_va
lue(self, label, takeable)
   1049
   1050         # Similar to Index.get_value, but we do not fall back t
o positional
-> 1051         loc = self.index.get_loc(label)
   1052         return self.index._get_values_for_loc(self, loc, label)
   1053

/usr/local/lib/python3.7/dist-packages/pandas/core/indexes/base.py in g
et_loc(self, key, method, tolerance)
   3361                 return self._engine.get_loc(casted_key)
   3362             except KeyError as err:
-> 3363                 raise KeyError(key) from err
   3364
```

```
   3365         if is_scalar(key) and isna(key) and not self.hasnans:

KeyError: 0
```

```
0    100.0
1    120.0
2    101.0
3      3.0
dtype: float64
```

```
324.0
```

```
324.0
```

```
0    454
1    851
2    394
3    908
4    787
dtype: int64
```

```
0     454
1     851
2     394
3     908
4     787
5     396
6     978
7     541
8     775
9     263
10    585
11     11
12    266
13    823
14    439
15    622
16    261
17     75
18     33
19    264
dtype: int64
```

```
10000
```

```
100 loops, best of 5: 1.53 ms per loop
```

```
100 loops, best of 5: 64.6 µs per loop
```

```
0    456
1    853
2    396
3    910
4    789
dtype: int64
```

	Nombre	Artículo comprado	Costo
Tienda 1	Cris	Alimento de perro	22.5
Tienda 1	John	Alimento de gato	2.5
Tienda 2	Dan	Alimento de aves	5.0

```
Nombre                              Dan
Artículo comprado    Alimento de aves
Costo                               5.0
Name: Tienda 2, dtype: object
```

```
pandas.core.series.Series
```

	Nombre	Artículo comprado	Costo
Tienda 1	Cris	Alimento de perro	22.5
Tienda 1	John	Alimento de gato	2.5

```
Tienda 1    22.5
Tienda 1     2.5
Name: Costo, dtype: float64
```

	Tienda 1	Tienda 1	Tienda 2
Nombre	Cris	John	Dan
Artículo comprado	Alimento de perro	Alimento de gato	Alimento de aves
Costo	22.5	2.5	5.0

```
Tienda 1    22.5
Tienda 1     2.5
Tienda 2     5.0
Name: Costo, dtype: object
```

```
Tienda 1    22.5
Tienda 1     2.5
Tienda 2     5.0
Name: Costo, dtype: float64
```

```
Tienda 1    22.5
Tienda 1     2.5
Name: Costo, dtype: float64
```

	Nombre	Costo
Tienda 1	Cris	22.5
Tienda 1	John	2.5
Tienda 2	Dan	5.0

	Nombre	Artículo comprado	Costo
Tienda 2	Dan	Alimento de aves	5.0

	Nombre	Artículo comprado	Costo
Tienda 1	Cris	Alimento de perro	22.5
Tienda 1	John	Alimento de gato	2.5
Tienda 2	Dan	Alimento de aves	5.0

	Nombre	Artículo comprado	Costo
Tienda 2	Dan	Alimento de aves	5.0

	Artículo comprado	Costo
Tienda 2	Alimento de aves	5.0

	Nombre	Artículo comprado	Costo	Location
Tienda 1	Cris	Alimento de perro	22.5	None
Tienda 1	John	Alimento de gato	2.5	None
Tienda 2	Dan	Alimento de aves	5.0	None

```
Tienda 1    22.5
Tienda 1     2.5
Tienda 2     5.0
Name: Costo, dtype: float64
```

```
Tienda 1    24.5
Tienda 1     4.5
Tienda 2     7.0
Name: Costo, dtype: float64
```

	Nombre	Artículo comprado	Costo	Location
Tienda 1	Cris	Alimento de perro	24.5	None
Tienda 1	John	Alimento de gato	4.5	None
Tienda 2	Dan	Alimento de aves	7.0	None

	height	weight	origin
0	0.002406	0.658351	Brazil
1	0.054617	0.566069	USA
2	0.587231	0.068412	Chile
3	0.912029	0.400350	China
4	0.674430	0.086808	Canada
5	0.365695	0.338481	Germany
6	0.692078	0.209746	India
7	0.644255	0.721080	Mexico
8	0.436492	0.196608	UK
9	0.365078	0.434709	Iraq