

April 15, 2024

```
[1]: import pandas as pd
```

```
[2]: import numpy as np
```

```
[3]: df=pd.read_csv('Vehicles.csv')
```

```
[4]: df.head()
```

```
[4]:
```

	id	url
0	7222695916	https://prescott.craigslist.org/cto/d/prescott...
1	7218891961	https://fayar.craigslist.org/ctd/d/bentonville...
2	7221797935	https://keys.craigslist.org/cto/d/summerland-k...
3	7222270760	https://worcester.craigslist.org/cto/d/west-br...
4	7210384030	https://greensboro.craigslist.org/cto/d/trinit...

  

	region	region_url	price	year
0	prescott	https://prescott.craigslist.org	6000	NaN
1	fayetteville	https://fayar.craigslist.org	11900	NaN
2	florida keys	https://keys.craigslist.org	21000	NaN
3	worcester / central MA	https://worcester.craigslist.org	1500	NaN
4	greensboro	https://greensboro.craigslist.org	4900	NaN

  

	manufacturer	model	condition	cylinders	...	size	type	paint_color
0	NaN	NaN	NaN	NaN	...	NaN	NaN	NaN
1	NaN	NaN	NaN	NaN	...	NaN	NaN	NaN
2	NaN	NaN	NaN	NaN	...	NaN	NaN	NaN
3	NaN	NaN	NaN	NaN	...	NaN	NaN	NaN
4	NaN	NaN	NaN	NaN	...	NaN	NaN	NaN

  

	image_url	description	county	state	lat	long	posting_date
0	NaN	NaN	NaN	az	NaN	NaN	NaN
1	NaN	NaN	NaN	ar	NaN	NaN	NaN
2	NaN	NaN	NaN	fl	NaN	NaN	NaN
3	NaN	NaN	NaN	ma	NaN	NaN	NaN
4	NaN	NaN	NaN	nc	NaN	NaN	NaN

```
[5 rows x 26 columns]
```

```
[5]: df.tail()
```

```
[5]:
```

	id	url	region
1996	7308972392	<a href="https://dothan.craigslist.org/ctd/d/alachua-20...">https://dothan.craigslist.org/ctd/d/alachua-20...</a>	dothan \
1997	7308971633	<a href="https://dothan.craigslist.org/ctd/d/alachua-20...">https://dothan.craigslist.org/ctd/d/alachua-20...</a>	dothan
1998	7308831024	<a href="https://dothan.craigslist.org/ctd/d/dothan-201...">https://dothan.craigslist.org/ctd/d/dothan-201...</a>	dothan
1999	7308801755	<a href="https://dothan.craigslist.org/ctd/d/alachua-20...">https://dothan.craigslist.org/ctd/d/alachua-20...</a>	dothan
2000	7308801682	<a href="https://dothan.craigslist.org/ctd/d/alachua-20...">https://dothan.craigslist.org/ctd/d/alachua-20...</a>	dothan

	region_url	price	year	manufacturer
1996	<a href="https://dothan.craigslist.org">https://dothan.craigslist.org</a>	17860	2014.0	jeep \
1997	<a href="https://dothan.craigslist.org">https://dothan.craigslist.org</a>	54488	2020.0	ford
1998	<a href="https://dothan.craigslist.org">https://dothan.craigslist.org</a>	33990	2017.0	ram
1999	<a href="https://dothan.craigslist.org">https://dothan.craigslist.org</a>	3	2020.0	ford
2000	<a href="https://dothan.craigslist.org">https://dothan.craigslist.org</a>	18681	2019.0	nissan

	model	condition	cylinders	...	size	type
1996	grand cherokee limited	NaN	NaN	...	NaN	NaN \
1997	f-150 lariat 4wd	NaN	NaN	...	NaN	NaN
1998	1500 crew cab tradesman	good	8 cylinders	...	NaN	pickup
1999	fusion se sedan	NaN	NaN	...	NaN	NaN
2000	altima 2.5 sr sedan	NaN	NaN	...	NaN	NaN

	paint_color	image_url
1996	NaN	<a href="https://images.craigslist.org/00000_ijP2Qx9vMi...">https://images.craigslist.org/00000_ijP2Qx9vMi...</a> \
1997	NaN	<a href="https://images.craigslist.org/00U0U_dT0exEOB2l...">https://images.craigslist.org/00U0U_dT0exEOB2l...</a>
1998	blue	<a href="https://images.craigslist.org/00Y0Y_jRbwm0dSjS...">https://images.craigslist.org/00Y0Y_jRbwm0dSjS...</a>
1999	NaN	<a href="https://images.craigslist.org/00E0E_b3RHuW4jYv...">https://images.craigslist.org/00E0E_b3RHuW4jYv...</a>
2000	NaN	<a href="https://images.craigslist.org/00101_lBMiBbuKBr...">https://images.craigslist.org/00101_lBMiBbuKBr...</a>

	description	county	state
1996	2014 JEEP GRAND CHEROKEE LIMITED ~ Hundreds of...	NaN	al \
1997	2020 FORD F-150 LARIAT 4WD / F150 4X4 TRUCK ~ ...	NaN	al
1998	Carvana is the safer way to buy a car During t...	NaN	al
1999	2020 FORD FUSION SE SEDAN ~ Hundreds of NEW & ...	NaN	al
2000	2019 NISSAN ALTIMA 2.5 SR SEDAN ~ Hundreds of ...	NaN	al

	lat	long	posting_date
1996	29.801374	-82.531052	2021-04-18T17:15:59-0500
1997	29.802119	-82.529850	2021-04-18T17:14:22-0500
1998	31.230000	-85.400000	2021-04-18T12:50:51-0500
1999	29.803337	-82.528074	2021-04-18T11:59:35-0500
2000	29.802566	-82.529678	2021-04-18T11:59:27-0500

[5 rows x 26 columns]

```
[6]: df.info
```

```
[6]: <bound method DataFrame.info of                                     id
url
0      7222695916  https://prescott.craigslist.org/cto/d/prescott... \
1      7218891961  https://fayar.craigslist.org/ctd/d/bentonville...
2      7221797935  https://keys.craigslist.org/cto/d/summerland-k...
3      7222270760  https://worcester.craigslist.org/cto/d/west-br...
4      7210384030  https://greensboro.craigslist.org/cto/d/trinit...
...
1996  7308972392  https://dothan.craigslist.org/ctd/d/alachua-20...
1997  7308971633  https://dothan.craigslist.org/ctd/d/alachua-20...
1998  7308831024  https://dothan.craigslist.org/ctd/d/dothan-201...
1999  7308801755  https://dothan.craigslist.org/ctd/d/alachua-20...
2000  7308801682  https://dothan.craigslist.org/ctd/d/alachua-20...

      region      region_url  price
0      prescott  https://prescott.craigslist.org    6000 \
1      fayetteville  https://fayar.craigslist.org   11900
2      florida keys  https://keys.craigslist.org   21000
3  worcester / central MA  https://worcester.craigslist.org   1500
4      greensboro  https://greensboro.craigslist.org   4900
...
1996      dothan  https://dothan.craigslist.org   17860
1997      dothan  https://dothan.craigslist.org   54488
1998      dothan  https://dothan.craigslist.org   33990
1999      dothan  https://dothan.craigslist.org      3
2000      dothan  https://dothan.craigslist.org  18681

      year manufacturer      model condition  cylinders
0      NaN      NaN      NaN      NaN      NaN \
1      NaN      NaN      NaN      NaN      NaN
2      NaN      NaN      NaN      NaN      NaN
3      NaN      NaN      NaN      NaN      NaN
4      NaN      NaN      NaN      NaN      NaN
...
1996  2014.0      jeep  grand cherokee limited      NaN      NaN
1997  2020.0      ford      f-150 lariat 4wd      NaN      NaN
1998  2017.0      ram  1500 crew cab tradesman  good  8 cylinders
1999  2020.0      ford      fusion se sedan      NaN      NaN
2000  2019.0      nissan  altima 2.5 sr sedan      NaN      NaN

      ... size  type paint_color
0      ... NaN  NaN      NaN \
1      ... NaN  NaN      NaN
2      ... NaN  NaN      NaN
3      ... NaN  NaN      NaN
4      ... NaN  NaN      NaN
...  ...  ...  ...
```

1996	...	NaN	NaN	NaN
1997	...	NaN	NaN	NaN
1998	...	NaN	pickup	blue
1999	...	NaN	NaN	NaN
2000	...	NaN	NaN	NaN

	image_url
0	NaN \
1	NaN
2	NaN
3	NaN
4	NaN
...	...
1996	https://images.craigslist.org/00000_ijP2Qx9vMi...
1997	https://images.craigslist.org/00U0U_dT0exEOB2l...
1998	https://images.craigslist.org/00Y0Y_jRbwm0dSjS...
1999	https://images.craigslist.org/00EOE_b3RHuW4jYv...
2000	https://images.craigslist.org/00101_lBMiBbuKBr...

	description	county	state
0	NaN	NaN	az \
1	NaN	NaN	ar
2	NaN	NaN	fl
3	NaN	NaN	ma
4	NaN	NaN	nc
...	...	...	...
1996	2014 JEEP GRAND CHEROKEE LIMITED ~ Hundreds of...	NaN	al
1997	2020 FORD F-150 LARIAT 4WD / F150 4X4 TRUCK ~ ...	NaN	al
1998	Carvana is the safer way to buy a car During t...	NaN	al
1999	2020 FORD FUSION SE SEDAN ~ Hundreds of NEW & ...	NaN	al
2000	2019 NISSAN ALTIMA 2.5 SR SEDAN ~ Hundreds of ...	NaN	al

	lat	long	posting_date
0	NaN	NaN	NaN
1	NaN	NaN	NaN
2	NaN	NaN	NaN
3	NaN	NaN	NaN
4	NaN	NaN	NaN
...	...	...	...
1996	29.801374	-82.531052	2021-04-18T17:15:59-0500
1997	29.802119	-82.529850	2021-04-18T17:14:22-0500
1998	31.230000	-85.400000	2021-04-18T12:50:51-0500
1999	29.803337	-82.528074	2021-04-18T11:59:35-0500
2000	29.802566	-82.529678	2021-04-18T11:59:27-0500

[2001 rows x 26 columns]>

```
[7]: df.describe
```

```
[7]: <bound method NDFrame.describe of                                     id
url
0      7222695916  https://prescott.craigslist.org/cto/d/prescott... \
1      7218891961  https://fayar.craigslist.org/ctd/d/bentonville...
2      7221797935  https://keys.craigslist.org/cto/d/summerland-k...
3      7222270760  https://worcester.craigslist.org/cto/d/west-br...
4      7210384030  https://greensboro.craigslist.org/cto/d/trinit...
...
1996   7308972392  https://dothan.craigslist.org/ctd/d/alachua-20...
1997   7308971633  https://dothan.craigslist.org/ctd/d/alachua-20...
1998   7308831024  https://dothan.craigslist.org/ctd/d/dothan-201...
1999   7308801755  https://dothan.craigslist.org/ctd/d/alachua-20...
2000   7308801682  https://dothan.craigslist.org/ctd/d/alachua-20...

                                     region      region_url  price
0                                prescott  https://prescott.craigslist.org    6000 \
1                                fayetteville  https://fayar.craigslist.org   11900
2                                florida keys  https://keys.craigslist.org   21000
3      worcester / central MA  https://worcester.craigslist.org    1500
4                                greensboro  https://greensboro.craigslist.org    4900
...
1996                                dothan  https://dothan.craigslist.org   17860
1997                                dothan  https://dothan.craigslist.org   54488
1998                                dothan  https://dothan.craigslist.org   33990
1999                                dothan  https://dothan.craigslist.org      3
2000                                dothan  https://dothan.craigslist.org  18681

                                     year manufacturer      model condition  cylinders
0                                NaN      NaN      NaN      NaN      NaN \
1                                NaN      NaN      NaN      NaN      NaN
2                                NaN      NaN      NaN      NaN      NaN
3                                NaN      NaN      NaN      NaN      NaN
4                                NaN      NaN      NaN      NaN      NaN
...
1996   2014.0      jeep  grand cherokee limited      NaN      NaN
1997   2020.0      ford      f-150 lariat 4wd      NaN      NaN
1998   2017.0      ram  1500 crew cab tradesman  good  8 cylinders
1999   2020.0      ford      fusion se sedan      NaN      NaN
2000   2019.0      nissan  altima 2.5 sr sedan      NaN      NaN

... size      type paint_color
0      NaN      NaN      NaN \
1      NaN      NaN      NaN
2      NaN      NaN      NaN
3      NaN      NaN      NaN
```

4	...	NaN	NaN	NaN
...	...	...	...	...
1996	...	NaN	NaN	NaN
1997	...	NaN	NaN	NaN
1998	...	NaN	pickup	blue
1999	...	NaN	NaN	NaN
2000	...	NaN	NaN	NaN

		image_url
0		NaN \
1		NaN
2		NaN
3		NaN
4		NaN
...		...
1996	https://images.craigslist.org/00000_ijP2Qx9vMi...	
1997	https://images.craigslist.org/00U0U_dT0exEOB2l...	
1998	https://images.craigslist.org/00Y0Y_jRbwm0dSjS...	
1999	https://images.craigslist.org/00E0E_b3RHuW4jYv...	
2000	https://images.craigslist.org/00101_lBMiBbuKBr...	

		description	county	state
0		NaN	NaN	az \
1		NaN	NaN	ar
2		NaN	NaN	fl
3		NaN	NaN	ma
4		NaN	NaN	nc
...		...	...	...
1996	2014 JEEP GRAND CHEROKEE LIMITED ~ Hundreds of...	NaN	NaN	al
1997	2020 FORD F-150 LARIAT 4WD / F150 4X4 TRUCK ~ ...	NaN	NaN	al
1998	Carvana is the safer way to buy a car During t...	NaN	NaN	al
1999	2020 FORD FUSION SE SEDAN ~ Hundreds of NEW & ...	NaN	NaN	al
2000	2019 NISSAN ALTIMA 2.5 SR SEDAN ~ Hundreds of ...	NaN	NaN	al

	lat	long	posting_date
0	NaN	NaN	NaN
1	NaN	NaN	NaN
2	NaN	NaN	NaN
3	NaN	NaN	NaN
4	NaN	NaN	NaN
...	...	...	...
1996	29.801374	-82.531052	2021-04-18T17:15:59-0500
1997	29.802119	-82.529850	2021-04-18T17:14:22-0500
1998	31.230000	-85.400000	2021-04-18T12:50:51-0500
1999	29.803337	-82.528074	2021-04-18T11:59:35-0500
2000	29.802566	-82.529678	2021-04-18T11:59:27-0500

[2001 rows x 26 columns]>

```
[8]: df.isnull
```

```
[8]: <bound method DataFrame.isnull of id
```

```
url
0      7222695916  https://prescott.craigslist.org/cto/d/prescott... \
1      7218891961  https://fayar.craigslist.org/ctd/d/bentonville...
2      7221797935  https://keys.craigslist.org/cto/d/summerland-k...
3      7222270760  https://worcester.craigslist.org/cto/d/west-br...
4      7210384030  https://greensboro.craigslist.org/cto/d/trinit...
...
1996   7308972392  https://dothan.craigslist.org/ctd/d/alachua-20...
1997   7308971633  https://dothan.craigslist.org/ctd/d/alachua-20...
1998   7308831024  https://dothan.craigslist.org/ctd/d/dothan-201...
1999   7308801755  https://dothan.craigslist.org/ctd/d/alachua-20...
2000   7308801682  https://dothan.craigslist.org/ctd/d/alachua-20...
```

```
region region_url price
0      prescott  https://prescott.craigslist.org  6000 \
1      fayetteville  https://fayar.craigslist.org  11900
2      florida keys  https://keys.craigslist.org  21000
3  worcester / central MA  https://worcester.craigslist.org  1500
4      greensboro  https://greensboro.craigslist.org  4900
...
1996      dothan  https://dothan.craigslist.org  17860
1997      dothan  https://dothan.craigslist.org  54488
1998      dothan  https://dothan.craigslist.org  33990
1999      dothan  https://dothan.craigslist.org      3
2000      dothan  https://dothan.craigslist.org  18681
```

```
year manufacturer model condition cylinders
0      NaN      NaN      NaN      NaN      NaN \
1      NaN      NaN      NaN      NaN      NaN
2      NaN      NaN      NaN      NaN      NaN
3      NaN      NaN      NaN      NaN      NaN
4      NaN      NaN      NaN      NaN      NaN
...
1996  2014.0      jeep  grand cherokee limited      NaN      NaN
1997  2020.0      ford    f-150 lariat 4wd      NaN      NaN
1998  2017.0      ram  1500 crew cab tradesman  good  8 cylinders
1999  2020.0      ford    fusion se sedan      NaN      NaN
2000  2019.0      nissan  altima 2.5 sr sedan      NaN      NaN
```

```
... size type paint_color
0      NaN      NaN      NaN \
1      NaN      NaN      NaN
```

2	...	NaN	NaN	NaN
3	...	NaN	NaN	NaN
4	...	NaN	NaN	NaN
...	...	...	...	...
1996	...	NaN	NaN	NaN
1997	...	NaN	NaN	NaN
1998	...	NaN	pickup	blue
1999	...	NaN	NaN	NaN
2000	...	NaN	NaN	NaN

	image_url
0	NaN \
1	NaN
2	NaN
3	NaN
4	NaN
...	...
1996	<a href="https://images.craigslist.org/00000_ijP2Qx9vMi...">https://images.craigslist.org/00000_ijP2Qx9vMi...</a>
1997	<a href="https://images.craigslist.org/00U0U_dT0exEOB2l...">https://images.craigslist.org/00U0U_dT0exEOB2l...</a>
1998	<a href="https://images.craigslist.org/00Y0Y_jRbwmOdSjS...">https://images.craigslist.org/00Y0Y_jRbwmOdSjS...</a>
1999	<a href="https://images.craigslist.org/00E0E_b3RHuW4jYv...">https://images.craigslist.org/00E0E_b3RHuW4jYv...</a>
2000	<a href="https://images.craigslist.org/00101_lBMiBbuKBr...">https://images.craigslist.org/00101_lBMiBbuKBr...</a>

	description	county	state
0		NaN	NaN az \
1		NaN	NaN ar
2		NaN	NaN fl
3		NaN	NaN ma
4		NaN	NaN nc
...	...	...	...
1996	2014 JEEP GRAND CHEROKEE LIMITED ~ Hundreds of...	NaN	al
1997	2020 FORD F-150 LARIAT 4WD / F150 4X4 TRUCK ~ ...	NaN	al
1998	Carvana is the safer way to buy a car During t...	NaN	al
1999	2020 FORD FUSION SE SEDAN ~ Hundreds of NEW & ...	NaN	al
2000	2019 NISSAN ALTIMA 2.5 SR SEDAN ~ Hundreds of ...	NaN	al

	lat	long	posting_date
0	NaN	NaN	NaN
1	NaN	NaN	NaN
2	NaN	NaN	NaN
3	NaN	NaN	NaN
4	NaN	NaN	NaN
...	...	...	...
1996	29.801374	-82.531052	2021-04-18T17:15:59-0500
1997	29.802119	-82.529850	2021-04-18T17:14:22-0500
1998	31.230000	-85.400000	2021-04-18T12:50:51-0500
1999	29.803337	-82.528074	2021-04-18T11:59:35-0500



```
2000 29.802566 -82.529678 2021-04-18T11:59:27-0500
```

```
[2001 rows x 26 columns]>
```

```
[9]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 2001 entries, 0 to 2000
Data columns (total 26 columns):
#   Column          Non-Null Count  Dtype
---  -
0   id               2001 non-null   int64
1   url              2001 non-null   object
2   region           2001 non-null   object
3   region_url       2001 non-null   object
4   price            2001 non-null   int64
5   year             1952 non-null   float64
6   manufacturer     1831 non-null   object
7   model            1961 non-null   object
8   condition        1122 non-null   object
9   cylinders        1258 non-null   object
10  fuel             1940 non-null   object
11  odometer         1962 non-null   float64
12  title_status     1871 non-null   object
13  transmission     1973 non-null   object
14  VIN              1268 non-null   object
15  drive            1363 non-null   object
16  size             493 non-null    object
17  type             1380 non-null   object
18  paint_color      1534 non-null   object
19  image_url        1974 non-null   object
20  description       1974 non-null   object
21  county           0 non-null      float64
22  state            2001 non-null   object
23  lat              1962 non-null   float64
24  long             1962 non-null   float64
25  posting_date     1974 non-null   object
dtypes: float64(5), int64(2), object(19)
memory usage: 406.6+ KB
```

```
[10]: df.describe()
```

```
[10]:
```

	id	price	year	odometer	county
count	2.001000e+03	2.001000e+03	1952.000000	1.962000e+03	0.0 \
mean	7.308532e+09	5.625151e+05	2011.201332	2.038947e+05	NaN
std	1.150144e+07	2.219042e+07	9.704075	9.915782e+05	NaN
min	7.208550e+09	0.000000e+00	1903.000000	0.000000e+00	NaN

25%	7.305754e+09	5.500000e+03	2008.000000	2.967350e+04	NaN
50%	7.310397e+09	1.720000e+04	2013.000000	8.799700e+04	NaN
75%	7.313504e+09	2.998000e+04	2017.000000	1.572288e+05	NaN
max	7.316878e+09	9.876543e+08	2021.000000	9.999999e+06	NaN

	lat	long
count	1962.000000	1962.000000
mean	33.735365	-85.549365
std	2.167945	3.375666
min	26.021800	-122.693000
25%	32.922900	-86.817617
50%	33.455361	-86.737847
75%	33.736288	-85.480000
max	44.120200	-73.572300

```
[11]: df.isnull
```

```
[11]: <bound method DataFrame.isnull of                                     id
url
0      7222695916  https://prescott.craigslist.org/cto/d/prescott... \
1      7218891961  https://fayar.craigslist.org/ctd/d/bentonville...
2      7221797935  https://keys.craigslist.org/cto/d/summerland-k...
3      7222270760  https://worcester.craigslist.org/cto/d/west-br...
4      7210384030  https://greensboro.craigslist.org/cto/d/trinit...
...
1996   7308972392  https://dothan.craigslist.org/ctd/d/alachua-20...
1997   7308971633  https://dothan.craigslist.org/ctd/d/alachua-20...
1998   7308831024  https://dothan.craigslist.org/ctd/d/dothan-201...
1999   7308801755  https://dothan.craigslist.org/ctd/d/alachua-20...
2000   7308801682  https://dothan.craigslist.org/ctd/d/alachua-20...

                                     region      region_url  price
0                                prescott  https://prescott.craigslist.org    6000 \
1                                fayetteville  https://fayar.craigslist.org    11900
2                                florida keys  https://keys.craigslist.org    21000
3      worcester / central MA  https://worcester.craigslist.org    1500
4                                greensboro  https://greensboro.craigslist.org    4900
...
1996                                dothan  https://dothan.craigslist.org    17860
1997                                dothan  https://dothan.craigslist.org    54488
1998                                dothan  https://dothan.craigslist.org    33990
1999                                dothan  https://dothan.craigslist.org         3
2000                                dothan  https://dothan.craigslist.org    18681

year manufacturer      model condition  cylinders
0      NaN      NaN      NaN      NaN      NaN \
1      NaN      NaN      NaN      NaN      NaN
```

2	NaN	NaN	NaN	NaN	NaN	NaN
3	NaN	NaN	NaN	NaN	NaN	NaN
4	NaN	NaN	NaN	NaN	NaN	NaN
...	...	...	...	...	...	...
1996	2014.0	jeep	grand cherokee limited	NaN	NaN	NaN
1997	2020.0	ford	f-150 lariat 4wd	NaN	NaN	NaN
1998	2017.0	ram	1500 crew cab tradesman	good	8 cylinders	
1999	2020.0	ford	fusion se sedan	NaN	NaN	NaN
2000	2019.0	nissan	altima 2.5 sr sedan	NaN	NaN	NaN

	...	size	type	paint_color	
0	...	NaN	NaN	NaN	\
1	...	NaN	NaN	NaN	
2	...	NaN	NaN	NaN	
3	...	NaN	NaN	NaN	
4	...	NaN	NaN	NaN	

...	...	...	...	...	
1996	...	NaN	NaN	NaN	
1997	...	NaN	NaN	NaN	
1998	...	NaN	pickup	blue	
1999	...	NaN	NaN	NaN	
2000	...	NaN	NaN	NaN	

				image_url	
0				NaN	\
1				NaN	
2				NaN	
3				NaN	
4				NaN	

...				...	
1996	https://images.craigslist.org/00000_ijP2Qx9vMi...				
1997	https://images.craigslist.org/00U0U_dTOexEOB2l...				
1998	https://images.craigslist.org/00Y0Y_jRbwmOdSjS...				
1999	https://images.craigslist.org/00E0E_b3RHuW4jYv...				
2000	https://images.craigslist.org/00101_lBMiBbuKBr...				

				description	county	state	
0				NaN	NaN	az	\
1				NaN	NaN	ar	
2				NaN	NaN	fl	
3				NaN	NaN	ma	
4				NaN	NaN	nc	

...				...	...	...	
1996	2014 JEEP GRAND CHEROKEE LIMITED ~ Hundreds of...			NaN	al		
1997	2020 FORD F-150 LARIAT 4WD / F150 4X4 TRUCK ~ ...			NaN	al		
1998	Carvana is the safer way to buy a car During t...			NaN	al		
1999	2020 FORD FUSION SE SEDAN ~ Hundreds of NEW & ...			NaN	al		

```
2000 2019 NISSAN ALTIMA 2.5 SR SEDAN ~ Hundreds of ... NaN al
```

```
      lat      long      posting_date
0      NaN      NaN      NaN
1      NaN      NaN      NaN
2      NaN      NaN      NaN
3      NaN      NaN      NaN
4      NaN      NaN      NaN
...      ...      ...
1996 29.801374 -82.531052 2021-04-18T17:15:59-0500
1997 29.802119 -82.529850 2021-04-18T17:14:22-0500
1998 31.230000 -85.400000 2021-04-18T12:50:51-0500
1999 29.803337 -82.528074 2021-04-18T11:59:35-0500
2000 29.802566 -82.529678 2021-04-18T11:59:27-0500
```

```
[2001 rows x 26 columns]>
```

```
[12]: df.columns
```

```
[12]: Index(['id', 'url', 'region', 'region_url', 'price', 'year', 'manufacturer',
          'model', 'condition', 'cylinders', 'fuel', 'odometer', 'title_status',
          'transmission', 'VIN', 'drive', 'size', 'type', 'paint_color',
          'image_url', 'description', 'county', 'state', 'lat', 'long',
          'posting_date'],
          dtype='object')
```

```
[13]: data=['id', 'region']
```

```
[14]: data
```

```
[14]: ['id', 'region']
```

```
[15]: df[data]
```

```
[15]:      id      region
0  7222695916      prescott
1  7218891961      fayetteville
2  7221797935      florida keys
3  7222270760 worcester / central MA
4  7210384030      greensboro
...      ...      ...
1996 7308972392      dothan
1997 7308971633      dothan
1998 7308831024      dothan
1999 7308801755      dothan
2000 7308801682      dothan
```

```
[2001 rows x 2 columns]
```

```
[16]: df.size
```

```
[16]: 52026
```

```
[17]: df[data].head()
```

```
[17]:
```

	id	region
0	7222695916	prescott
1	7218891961	fayetteville
2	7221797935	florida keys
3	7222270760	worcester / central MA
4	7210384030	greensboro

```
[18]: df[data].tail()
```

```
[18]:
```

	id	region
1996	7308972392	dothan
1997	7308971633	dothan
1998	7308831024	dothan
1999	7308801755	dothan
2000	7308801682	dothan

```
[ ]:
```