```
import pandas as pd
pk=pd.read csv("pokemon.csv")
print(pk)
pk['avg1']=(pk['HP']+pk['Attack']+pk['Defense'])/2 #create new colum
named avg with average value of this field
pk.head(5)
     Unnamed: 0
                    #
                                          Name
                                                 Type 1
                                                          Type 2
                                                                  Total
HP
                                    Bulbasaur
                                                  Grass
                                                          Poison
0
                    1
                                                                     318
45
               1
                    2
                                                                     405
                                      Ivysaur
                                                  Grass
                                                          Poison
1
60
2
               2
                    3
                                     Venusaur
                                                  Grass
                                                          Poison
                                                                     525
80
3
                    3 VenusaurMega Venusaur
                                                  Grass
                                                          Poison
                                                                     625
80
                                   Charmander
                    4
                                                   Fire
                                                             NaN
                                                                     309
4
39
. .
795
            795
                                      Diancie
                  719
                                                   Rock
                                                           Fairy
                                                                     600
50
            796
                         DiancieMega Diancie
796
                  719
                                                   Rock
                                                           Fairy
                                                                     700
50
797
            797
                  720
                         HoopaHoopa Confined
                                                Psychic
                                                           Ghost
                                                                     600
80
798
            798
                  720
                          HoopaHoopa Unbound
                                                Psychic
                                                            Dark
                                                                     680
80
799
            799
                  721
                                    Volcanion
                                                   Fire
                                                           Water
                                                                     600
80
     Attack
             Defense Sp. Atk Sp. Def Speed
                                                  Generation Legendary
avg
         49
                   49
                             65
                                      65
                                              45
                                                                    False
71.5
                             80
                                      80
                                              60
         62
                   63
                                                                    False
1
92.5
         82
                   83
                            100
                                     100
                                              80
                                                                    False
122.5
3
        100
                  123
                            122
                                     120
                                              80
                                                            1
                                                                    False
151.5
                   43
                             60
                                      50
                                                                    False
         52
                                              65
4
67.0
. .
795
        100
                  150
                                     150
                                              50
                            100
                                                                    True
150.0
```

796	160		110	160) 1	10	110		6	Tr	ue
160.0 797	110		60	150) 1	L30	70		6	Tr	ue
125.0 798	160		60	170) 1	130	80		6	Tr	·ue
150.0 799 155.0	110		120	130		90	70		6	Tr	rue
[800 r	OWS X	15	colum	ns]							
	amed:	0	#		N	lame	Type 1	Type 2	Tota	l HP	
Attack 0	\	0	1		Bulbas	aur	Grass	Poison	31	.8 45	
49 1		1	2		Ivys	aur	Grass	Poison	40	5 60	
62 2		2	3		Venus	aur	Grass	Poison	52	5 80	
82 3		3	3 Ve	nusaurMeg	a Venus	aur	Grass	Poison	62	5 80	
100 4 52		4	4		Charmar	der	Fire	NaN	30	9 39	
	ense	Sp	. Atk	Sp. Def	Speed	Ger	neratio	n Legeno	dary	avg	
avgl 0	49		65	65	45			1 Fa	alse	71.5	
71.5	63		80	80	60			1 Fa	alse	92.5	
92.5 2	83		100	100	80			l Fa	alse	122.5	
122.5 3	123		122	120	80			1 Fa	alse	151.5	
151.5 4 67.0	43		60	50	65			1 Fa	alse	67.0	
<pre>m=pk["' print(" m=pk["' print(")</pre>	m) Total' m) Attacl	'].r	median	#give me () #give) #give m	median	of d					
435.10 450.0 0 1 Name:	00	<, (dtype:	int64							
print(pk.hea	ad ()))#to	fetch fir	st 5 re	ecoro	ds				

Unnamed:	0 7	#			Name	e T	ype 1	Ту	pe 2	Tota	l HP	
Attack \ 0	0 :	1		Bu	lbasau	r 1	Grass	Ро	ison	318	8 45	
49 1	1 2	2			Ivysau	r I	Grass	Pο	ison	40!	5 60	
62					•							
2 82	2 3	3		Ve	enusau	r (Grass	Po	ison	52	5 80	
3	3 3	3 Veni	usaurMe	ega Ve	enusau	r (Grass	Po	ison	62	5 80	
100 4	4 4	4		Chai	rmande	r	Fire		NaN	309	9 39	
52												
Defense 0 49 1 63 2 83 3 123 4 43	Sp.	Atk 5 80 100 122 60	5p. Def 65 80 100 120 50)))	eed Ge 45 60 80 80 65	ene		n L 1 1 1 1	Fa Fa Fa	lse lse lse	avg 71.5 92.5 122.5 151.5 67.0	
print(pk.ta:	il())#to fe	etch la	ast 5	recor	ds						
Unnamed	d: 0	#			Na	ame	Ту	pe 1	Туре	2 T	otal	HP
Attack \ 795	795	719			Dian	cie		Rock	Fai	rv	600	50
100										•		
796 160	796	719	Dianci	_emega	a viano	cie		Rock	Fai	ry	700	50
797 110	797	720	HoopaH	loopa	Confi	ned	Psy	chic	Gho	st	600	80
798	798	720	Ноора	Ноора	a Unboi	und	Psy	chic	Da	rk	680	80
160 799	799	721		\	Volcan:	ion		Fire	Wat	er	600	80
110												
Defense 795 150 796 110 797 60 798 60 799 120	9 9 9 9	0. Atk 100 160 150 170 130	1 1	0ef 9 150 110 130 130	5peed 50 110 70 80 70	Ger	nerat	ion 6 6 6 6	Lege	ndary True True True True True	a 150 160 125 150 155	. 0 . 0 . 0
print(pk.lo	c[2])#to fe	etch si	ingle	row							
Unnamed: 0 # Name Type 1 Type 2 Total	Ve		s 1									

HP Attack Defense Sp. Atl Sp. De Speed Genera Legenda avg Name: 2	k f tion ary 2, dty	•	86 82 83 106 86 1 False 122.5 object	2 3)) L										
print(ok.ini	ro)												
<box>bound</box>								name	d:	0 #				
Name	Type		ype 2	Tot	tal		\						212	
0 4 F		0	1				Bulba	ısaur		Grass	Pois	on	318	
45 1		1	2				Tyy	saur		Grass	Pois	าท	405	
60			2				ΙVy	Saui		01 033	10130	J11	403	
2		2	3				Venu	ısaur		Grass	Pois	on	525	
80														
3		3	3	Venu	ısaur	Mega	Venu	ısaur		Grass	Pois	on	625	
80						_							200	
4		4	4			C	harma	inder		Fire	Na	aN	309	
39														
								• • •			•			•
795		795	719				Dia	ncie		Rock	Fai	rv	600	
50												•		
796		796	719	Di	Lanci	.eMeg	a Dia	ncie		Rock	Fai	ry	700	
50						-			_					
797		797	720	Н	opal	loopa	Conf	ined	Р	sychic	Gho	st	600	
80 798		798	720	L	Joons	Hoon	a llab	haund	D)cychic	Da	nla	680	
80		790	720	Г	ισομα	поор	a Unb	ounu	Г	sychic	νa	I K	000	
799		799	721				Volca	nion		Fire	Wate	er	600	
80														
								_		_				
	ttack	Def	ense	Sp.	Atk	Sp.	Def	Spe	ed	Genera ⁻	tion	Lege	endary	
avg	40		40		65		6 E		<i>1</i> E		1		F2166	
0 71.5	49		49		65		65		45		1		False	
1	62		63		80		80		60		1		False	
92.5	02		U.S				00		00		_		1 4 130	
2	82		83		100		100		80		1		False	
122.5														
3	100		123		122		120		80		1		False	
151.5	E 2		12		60		ΕO		6 E		1		Ealco	
4 67.0	52		43		60		50		65		1		False	
07.0														

795	100		150	100	150	50		6	True
150.0 796	160		110	160	110	110		6	True
160.0 797	110		60	150	130	70		6	True
125.0 798	160		60	170	130	80		6	True
150.0 799	110		120	130	90	70		6	True
155.0		15	.1						
_	TOWS X		_						
print(Z]#/6	ettii Sp	ecific rows					
	named:	0 #		Name Type 1	Type 2	Total	HP	Attack	Defense
0		0 1	Bulba	saur Grass	Poison	318	45	49	49
1		1 2	Ivy	saur Grass	Poison	405	60	62	63
Sn	Atk	Sp. D	of Sn	eed Genera	tion lo	gendary	21	40	
9 1	65 80	3 μ. ι	65 80	45 60	1	False False	71 92		
	d_data= (newstd			#to remove	null val				
	Jnnamed	: 0	#		Nam	е Туре	1	Type 2	Total
HP \		0	1		Bulbasau	r Gra	ISS	Poison	318
45 1		1	2		Ivysau	r Gra	ISS	Poison	405
60 2		2	3		Venusau	r Gra	ISS	Poison	525
80 3		3	3 V	enusaurMega	Venusau	r Gra	ISS	Poison	625
80 6		6	6		Charizar	d Fi	.re	Flying	534
78 									
795		795	719		Dianci	e Ro	ck	Fairy	600
50 796		796	719	DiancieMeg	a Dianci	e Ro	ck	Fairy	700
50 797		797	720	НоораНоора				Ghost	600
				1		- ,			

80		700	700						_		_		600
798 80		798	720	ŀ	ноора	Ноора	a Unb	ound	PS	sychic	Da	rk	680
799		799	721			\	/olca	nion		Fire	Wate	er	600
80		, , ,											
	Attack	Def	ense	Sp.	Atk	Sp.	Def	Spee	ed	Genera	tion	Lege	endary
avg	49		49		65		65	1	15		1		False
0 71.5	49		49		05		05	4	13		Т		ratse
1	62		63		80		80	6	60		1		False
92.5													
2	. 82		83		100		100	8	80		1		False
122.5 3	100		123		122		120	8	80		1		False
151.5			70		100		0.5	1.0			-		
6 120.0	84		78		109		85	10)0		1		False
795	100		150		100		150	5	0		6		True
150.0													
796	160		110		160		110	11	.0		6		True
160.0 797	110		60		150		130	7	0		6		True
125.0			00		130		130	,	U		U		TTUE
798	160		60		170		130	8	80		6		True
150.0													
799 155.0	110		120		130		90	7	'0		6		True

[414 rows x 15 columns]

newstd_data=pk.fillna(10,inplace=True)#fill null value with 10
print(newstd_data)

None

797

new=pk["avg"].fillna("90.33")#to change specific colum with null value
print(new)

```
0 71.5
1 92.5
2 122.5
3 151.5
4 67.0
...
795 150.0
796 160.0
```

125.0

798 150.0 799 155.0

Name: avg, Length: 800, dtype: float64

new=pk["Total"].fillna("90",inplace=True)#modify data in same
object(modify object) (update data in std_data variable)
print(new)

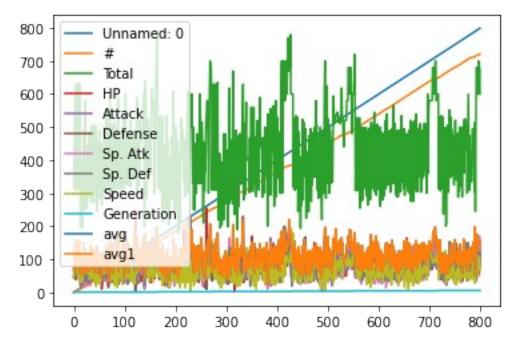
None

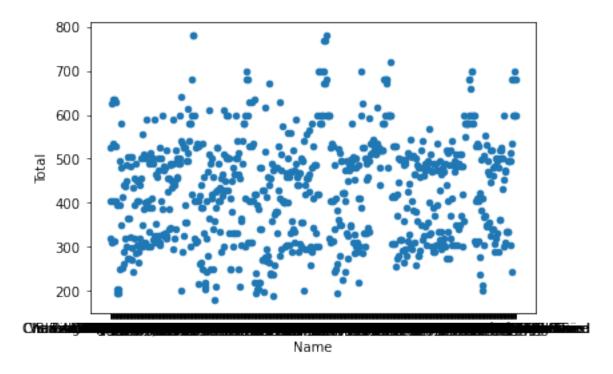
pk.to_csv('pokemon.csv')#toupdate original file

 $pk.sort_values(['Total'], ascending=1) \# to sort data in asending order 1-for ascending and 0-for desending$

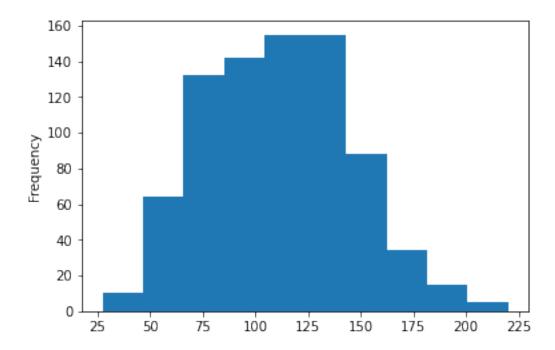
HP	Unnamed	d: 0	#				Name	Type 1	Тур	e 2	Total
206	\	206	191			Sun	kern	Grass		NaN	180
30 322		322	298			Azu	rill	Normal	Fa	airy	190
50 446		446	401		ı	Krick	etot	Bug		NaN	194
37 288		288	265			Wur	mple	Bug		NaN	195
45 16		16	13			We	edle	Bug	Poi	son	195
40											
		• • •	• • • •				• • • •			• • •	
424 100		424	383	GroudonP	'rima	l Gro	udon	Ground	F	ire	770
422 100		422	382	Kyogre	Prima	al Ky	ogre	Water		NaN	770
164		164	150	Mewtwo	Mega	Mewt	wo Y	Psychic		NaN	780
106 426		426	384	Rayquaza	Mega	Rayq	uaza	Dragon	Fly	/ing	780
105 163		163	150	Mewtwo	Mega	Mewt	wo X	Psychic	Fight	ing	780
106											
	Attack	Def	ense	Sp. Atk	Sp.	Def	Speed	l Genera	ation	Lege	endary
avg	\								_		
206 45.0	30		30	30		30	36)	2		False
322 55.0	20		40	20		40	26)	3		False
446	25		41	25		41	25	5	4		False
51.5 288	45		35	20		30	20)	3		False
62.5	,										

```
16
         35
                   30
                            20
                                      20
                                             50
                                                           1
                                                                   False
52.5
. . .
        180
                  160
                           150
                                      90
                                             90
424
                                                           3
                                                                    True
220.0
422
        150
                   90
                           180
                                     160
                                             90
                                                                    True
170.0
164
        150
                   70
                           194
                                     120
                                            140
                                                                    True
163.0
        180
                  100
                           180
                                     100
                                                                    True
426
                                            115
192.5
163
        190
                  100
                           154
                                     100
                                            130
                                                                    True
198.0
      avg1
206
      45.0
      55.0
322
446
      51.5
288
      62.5
16
      52.5
424
     220.0
422
     170.0
     163.0
164
426
     192.5
163
     198.0
[800 rows x 16 columns]
pk.plot()#to create visual presentation of data
plt.show()
NameError
                                            Traceback (most recent call
last)
Input In [18], in <cell line: 2>()
      1 pk.plot()#to create visual presentation of data
----> 2 plt.show()
NameError: name 'plt' is not defined
```





pk['avg'].plot(kind='hist')#kind use to define type
<AxesSubplot:ylabel='Frequency'>



a=[10,20,30,40,50]
s1=pd.Series(a,index=["11","12","13","14","15"]) #to change index
print(a)
print(a[3])#display data of third index

```
print(s1)
print(s1["13"]) #to find specific index
[10, 20, 30, 40, 50]
40
11
      10
12
      20
13
      30
14
      40
15
      50
dtype: int64
keyval={"AIML":4, "CCN":4, "WS":3, "CS":4}
print(keyval)
key=pd.Series(keyval)
print(key)
print(key["CCN"])
{'AIML': 4, 'CCN': 4, 'WS': 3, 'CS': 4}
AIML
CCN
        4
WS
        3
CS
        4
dtype: int64
std={"student":["aiml","ccn","ws","cs"],
    "marks":[90,89,99,98]}
print(std)
dfstd=pd.DataFrame(std)#to create data frame which store data in
tabular formate
print(dfstd)
print(dfstd.loc[3])
{'student': ['aiml', 'ccn', 'ws', 'cs'], 'marks': [90, 89, 99, 98]}
  student marks
0
     aiml
              90
1
              89
      ccn
2
              99
       WS
3
              98
       CS
student
           CS
marks
           98
Name: 3, dtype: object
```