

In [12]:

```
import pandas as pd
import numpy as np
from pandas import Series, DataFrame
```

In [2]:

```
team=pd.read_csv('/Users/faisal/Desktop/Teams.csv')
```

In [3]:

```
#printing the first five rows to see the content of the dataset
team.head()
```

Out[3]:

	yearID	lgID	teamID	franchID	divID	Rank	G	Ghome	W	L	...	DP	FP	name
0	1871	NaN	BS1	BNA	NaN	3	31	NaN	20	10	...	NaN	0.83	Boston Red Stockings
1	1871	NaN	CH1	CNA	NaN	2	28	NaN	19	9	...	NaN	0.82	Chicago White Stockings
2	1871	NaN	CL1	CFC	NaN	8	29	NaN	10	19	...	NaN	0.81	Cleveland Forest Citys
3	1871	NaN	FW1	KEK	NaN	7	19	NaN	7	12	...	NaN	0.80	Fort Wayne Kekiongas
4	1871	NaN	NY2	NNA	NaN	5	33	NaN	16	17	...	NaN	0.83	New York Mutuals

5 rows × 48 columns

In [4]:

```
#find the lenght of the data
len(team)
```

Out[4]:

2655

In [22]:

```
df = pd.DataFrame(team)
```

In [23]:

```
df
```

Out[23]:

	yearID	lgID	teamID	franchID	divID	Rank	G	Ghome	W	L	...	DP	FP	
0	1871	NaN	BS1	BNA	NaN	3	31	NaN	20	10	...	NaN	0.83	Bo s
1	1871	NaN	CH1	CNA	NaN	2	28	NaN	19	9	...	NaN	0.82	Chica s
2	1871	NaN	CL1	CFC	NaN	8	29	NaN	10	19	...	NaN	0.81	C For
3	1871	NaN	FW1	KEK	NaN	7	19	NaN	7	12	...	NaN	0.80	Fo K
4	1871	NaN	NY2	NNA	NaN	5	33	NaN	16	17	...	NaN	0.83	I
5	1871	NaN	PH1	PNA	NaN	1	28	NaN	21	7	...	NaN	0.84	Phi
6	1871	NaN	RC1	ROK	NaN	9	25	NaN	4	21	...	NaN	0.82	For
7	1871	NaN	TRO	TRO	NaN	6	29	NaN	13	15	...	NaN	0.84	He
8	1871	NaN	WS3	OLY	NaN	4	32	NaN	15	15	...	NaN	0.85	We ,
9	1872	NaN	BL1	BLC	NaN	2	58	NaN	35	19	...	NaN	0.82	I
10	1872	NaN	BR1	ECK	NaN	9	29	NaN	3	26	...	NaN	0.79	
11	1872	NaN	BR2	BRA	NaN	6	37	NaN	9	28	...	NaN	0.81	
12	1872	NaN	BS1	BNA	NaN	1	48	NaN	39	8	...	NaN	0.87	Bo s
13	1872	NaN	CL1	CFC	NaN	7	22	NaN	6	16	...	NaN	0.82	C For
14	1872	NaN	MID	MAN	NaN	8	24	NaN	5	19	...	NaN	0.80	Mi M
15	1872	NaN	NY2	NNA	NaN	3	56	NaN	34	20	...	NaN	0.86	I
16	1872	NaN	PH1	PNA	NaN	4	47	NaN	30	14	...	NaN	0.85	Phi

17	1872	NaN	TRO	TRO	NaN	5	25	NaN	15	10	...	NaN	0.86	Helsinki
18	1872	NaN	WS3	OLY	NaN	10	9	NaN	2	7	...	NaN	0.78	Washington
19	1872	NaN	WS4	NAT	NaN	11	11	NaN	0	11	...	NaN	0.76	Washington
20	1873	NaN	BL1	BLC	NaN	3	57	NaN	34	22	...	NaN	0.85	London
21	1873	NaN	BL4	MAR	NaN	9	6	NaN	0	6	...	NaN	0.76	London
22	1873	NaN	BR2	BRA	NaN	6	55	NaN	17	37	...	NaN	0.82	London
23	1873	NaN	BS1	BNA	NaN	1	60	NaN	43	16	...	NaN	0.83	Boston
24	1873	NaN	ELI	RES	NaN	8	23	NaN	2	21	...	NaN	0.78	Frankfurt
25	1873	NaN	NY2	NNA	NaN	4	53	NaN	29	24	...	NaN	0.82	London
26	1873	NaN	PH1	PNA	NaN	5	52	NaN	28	23	...	NaN	0.84	Philadelphia
27	1873	NaN	PH2	PWS	NaN	2	53	NaN	36	17	...	NaN	0.84	Philadelphia
28	1873	NaN	WS5	WBL	NaN	7	39	NaN	8	31	...	NaN	0.84	Washington
29	1874	NaN	BL1	BLC	NaN	8	47	NaN	9	38	...	NaN	0.81	London
...	
2625	2010	AL	BAL	BAL	E	5	162	NaN	66	96	...	141.0	0.98	London
2626	2010	AL	BOS	BOS	E	3	162	NaN	89	73	...	132.0	0.98	Boston
2627	2010	AL	CHA	CHW	C	2	162	NaN	88	74	...	157.0	0.98	Chicago
2628	2010	AL	CLE	CLE	C	4	162	NaN	69	93	...	179.0	0.98	Cleveland
2629	2010	AL	DET	DET	C	3	162	NaN	81	81	...	171.0	0.98	Detroit
2630	2010	AL	KCA	KCR	C	5	162	NaN	67	95	...	138.0	0.98	Kansas
2631	2010	AL	LAA	ANA	W	3	162	NaN	80	82	...	116.0	0.98	Los Angeles

2632	2010	AL	MIN	MIN	C	1	162	NaN	94	68	...	149.0	0.98	M
2633	2010	AL	NYA	NYN	E	2	162	NaN	95	67	...	161.0	0.98	I
2634	2010	AL	OAK	OAK	W	2	162	NaN	81	81	...	146.0	0.98	
2635	2010	AL	SEA	SEA	W	4	162	NaN	61	101	...	146.0	0.98	
2636	2010	AL	TBA	TBD	E	1	162	NaN	96	66	...	134.0	0.98	Ta
2637	2010	AL	TEX	TEX	W	1	162	NaN	90	72	...	132.0	0.98	Texas
2638	2010	AL	TOR	TOR	E	4	162	NaN	85	77	...	172.0	0.98	Tor
2639	2010	NL	ARI	ARI	W	5	162	NaN	65	97	...	152.0	0.98	Diamc
2640	2010	NL	ATL	ATL	E	2	162	NaN	91	71	...	165.0	0.98	Atlant
2641	2010	NL	CHN	CHC	C	5	162	NaN	75	87	...	135.0	0.98	Chic
2642	2010	NL	CIN	CIN	C	1	162	NaN	91	71	...	140.0	0.98	C
2643	2010	NL	COL	COL	W	3	162	NaN	83	79	...	182.0	0.98	'
2644	2010	NL	FLO	FLA	E	3	162	NaN	80	82	...	130.0	0.98	Florid
2645	2010	NL	HOU	HOU	C	4	162	NaN	76	86	...	135.0	0.98	
2646	2010	NL	LAN	LAD	W	4	162	NaN	80	82	...	122.0	0.98	Los
2647	2010	NL	MIL	MIL	C	3	162	NaN	77	85	...	141.0	0.98	M
2648	2010	NL	NYN	NYM	E	4	162	NaN	79	83	...	160.0	0.98	I
2649	2010	NL	PHI	PHI	E	1	162	NaN	97	65	...	156.0	0.98	Phi
2650	2010	NL	PIT	PIT	C	6	162	NaN	57	105	...	119.0	0.98	P
2651	2010	NL	SDN	SDP	W	2	162	NaN	90	72	...	142.0	0.98	S
2652	2010	NL	SFN	SFG	W	1	162	NaN	92	70	...	110.0	0.98	San F

2653	2010	NL	SLN	STL	C	2	162	NaN	86	76	...	170.0	0.98	(
2654	2010	NL	WAS	WSN	E	5	162	NaN	69	93	...	146.0	0.98	We

2655 rows × 48 columns

In [29]:

```
df_unique=df.yearID.unique()
```

In [31]:

```
len(df_unique)
```

Out[31]:

140

In [32]:

```
df_unique
```

Out[32]:

```
array([1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881,
       1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892,
       1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903,
       1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914,
       1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925,
       1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936,
       1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947,
       1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958,
       1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969,
       1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980,
       1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991,
       1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002,
       2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010])
```

In [42]:

```
teamx=team.groupby(['name','attendance','yearID']).count()
```

In [115]:

```
#summary of the data get insight such as the mean, std, of different variable
team.describe()
```

Out[115]:

	yearID	Rank	G	Ghome	W	L	
count	2655.000000	2655.000000	2655.000000	2136.000000	2655.000000	2655.000000	2655.000000
mean	1951.761959	4.168738	149.690395	78.146067	74.396234	74.396234	681.871959
std	40.255858	2.348532	23.704564	4.891441	17.877958	17.604967	138.610111
min	1871.000000	1.000000	6.000000	44.000000	0.000000	4.000000	24.000000
25%	1917.000000	2.000000	153.000000	77.000000	65.000000	65.000000	609.500000
50%	1959.000000	4.000000	156.000000	80.000000	77.000000	76.000000	690.000000
75%	1987.000000	6.000000	162.000000	81.000000	87.000000	86.000000	767.000000
max	2010.000000	13.000000	165.000000	84.000000	116.000000	134.000000	1220.000000

8 rows × 35 columns

In [93]:

```
import matplotlib.pyplot as plt
import seaborn as sns
%pylab inline
```

Populating the interactive namespace from numpy and matplotlib

In [83]:

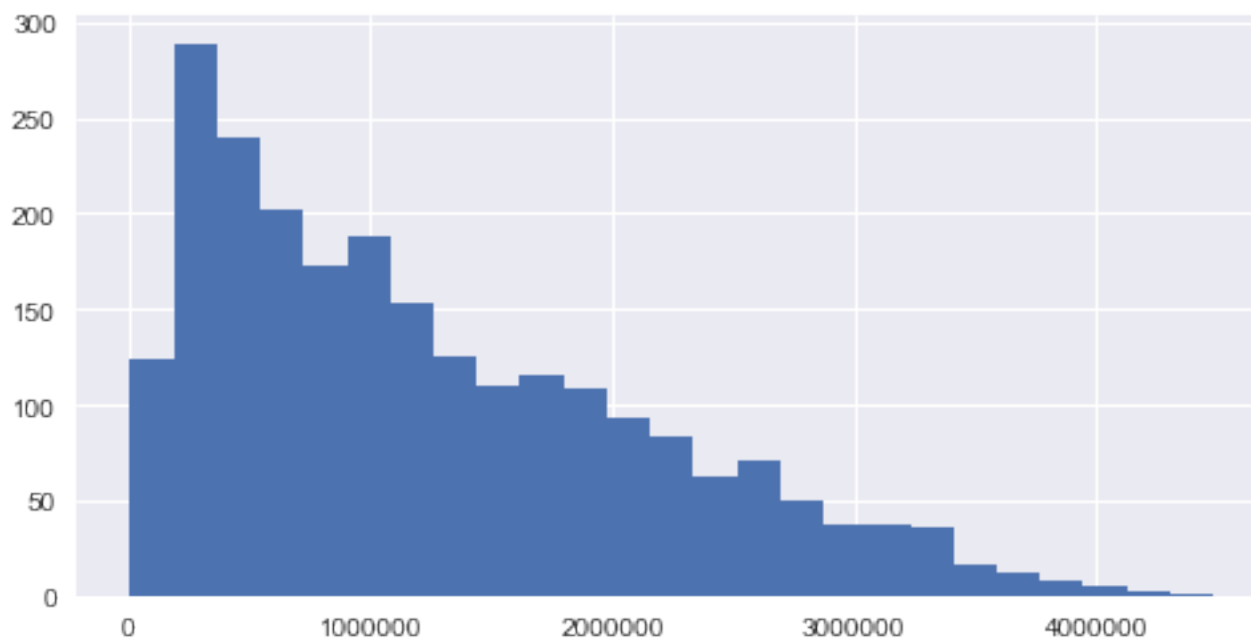
```
#setting seaborn
#sns.set_palette('deep',desat=1)
#sns.set_context(rc={'figure.figsize':(8,4)})
```

In [85]:

```
#visualize the attendance  
plt.hist(team.attendance.dropna(),bins=25)
```

Out[85]:

```
(array([ 124.,  289.,  240.,  202.,  173.,  188.,  153.,  125.,  110.,  
        116.,  108.,   93.,   83.,   63.,   71.,   50.,   38.,   38.,  
         36.,   17.,   12.,   8.,    5.,    3.,    1.]),  
 array([  6088.   , 185178.48, 364268.96, 543359.44, 722449.9  
2,      901540.4 , 1080630.88, 1259721.36, 1438811.84, 1617902.3  
2,      1796992.8 , 1976083.28, 2155173.76, 2334264.24, 2513354.7  
2,      2692445.2 , 2871535.68, 3050626.16, 3229716.64, 3408807.1  
2,      3587897.6 , 3766988.08, 3946078.56, 4125169.04, 4304259.5  
2,      4483350.   ]),  
<a list of 25 Patch objects>)
```



In [84]:

```
team.attendance.mean()
```

Out[84]:

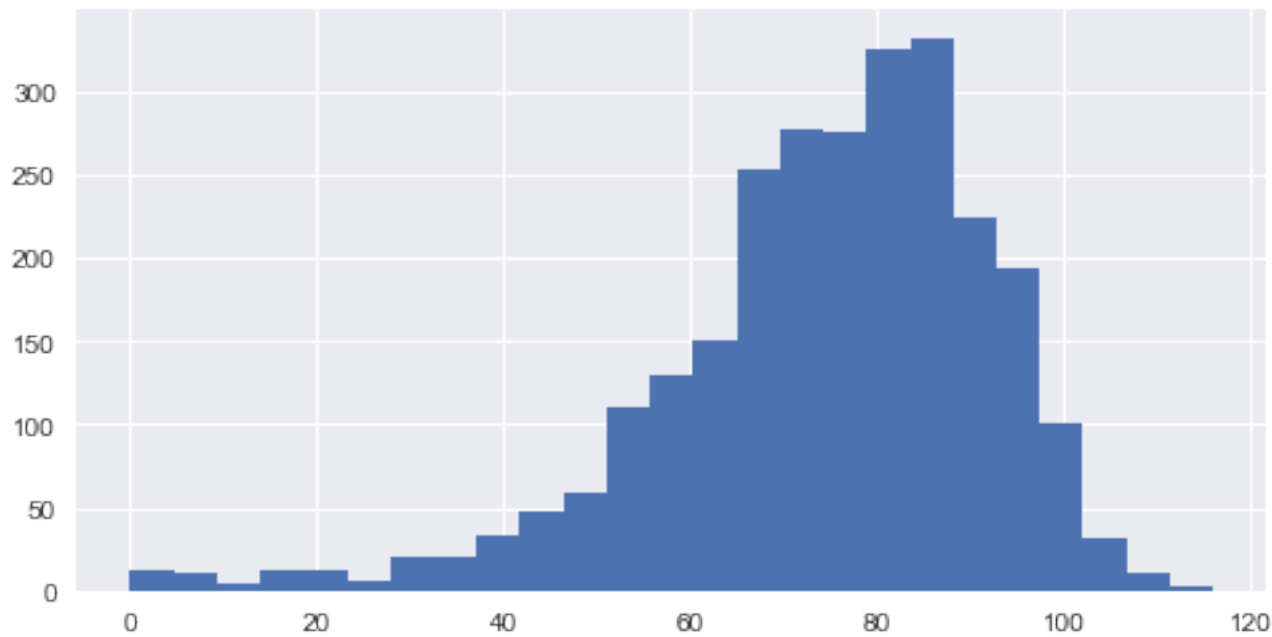
```
1258717.6176470588
```

In [86]:

```
plt.hist(team.W.dropna(),bins=25)
```

Out[86]:

```
(array([ 12.,  11.,   4.,  12.,  13.,   6.,  21.,  21.,  33.,
        48.,  59., 110., 129., 151., 253., 277., 275., 325.,
        332., 224., 193., 100.,  32.,  11.,   3.]),
 array([  0.   ,   4.64,   9.28,  13.92,  18.56,  23.2  ,  27.84,
        32.48,  37.12,  41.76,  46.4  ,  51.04,  55.68,  60.32,
        64.96,  69.6  ,  74.24,  78.88,  83.52,  88.16,  92.8  ,
        97.44, 102.08, 106.72, 111.36, 116.   ]),
<a list of 25 Patch objects>)
```

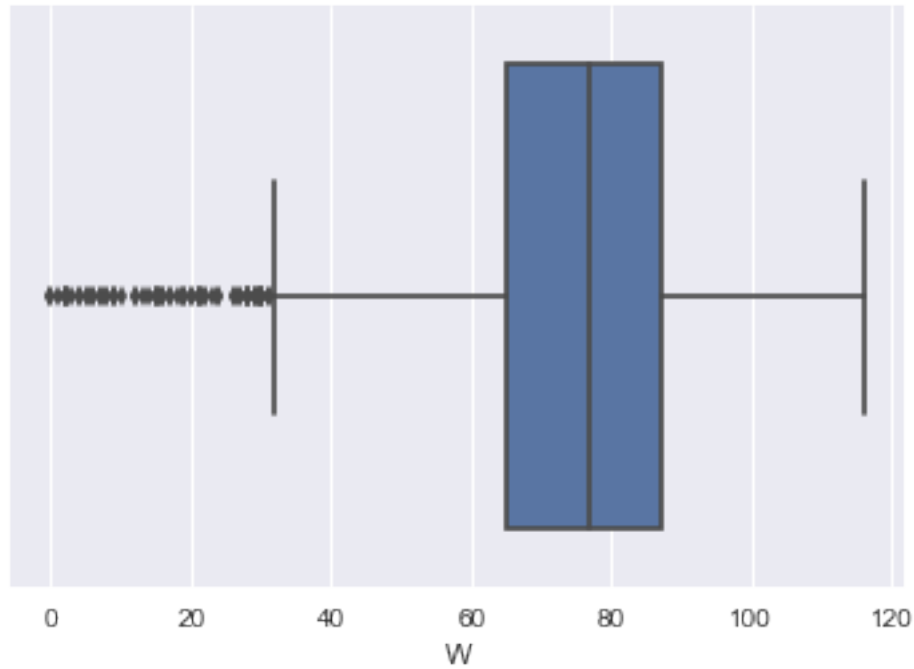


In [95]:

```
#Boxplot  
#visualize the distribution winning score  
sns.boxplot(team.W)
```

Out[95]:

<matplotlib.axes._subplots.AxesSubplot at 0x1168733c8>



In [113]:

```
team.W.mean()
```

Out[113]:

74.39623352165725

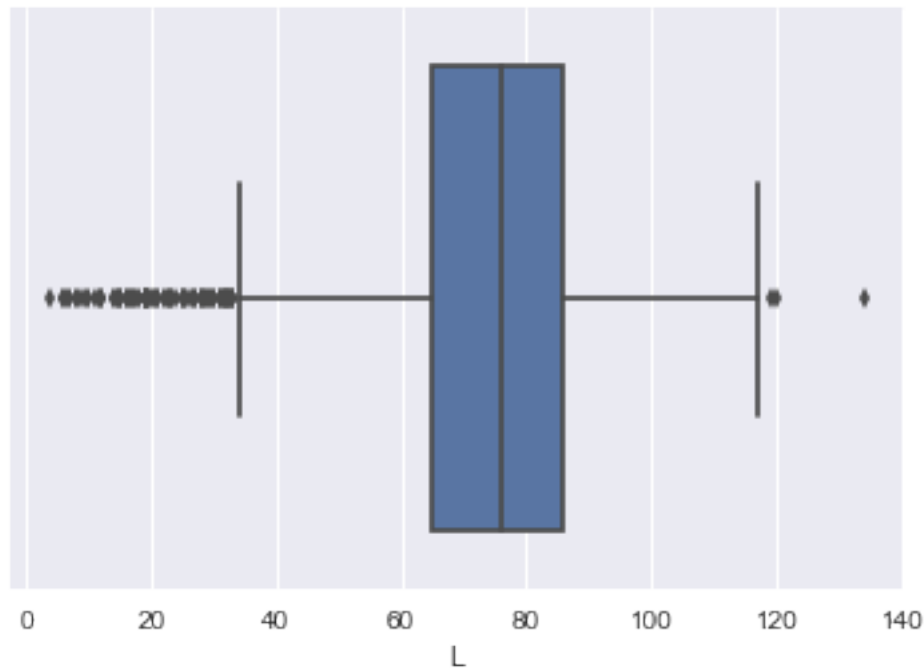
In []:

In [96]:

```
sns.boxplot(team.L)
```

Out[96]:

<matplotlib.axes._subplots.AxesSubplot at 0x1168ad550>

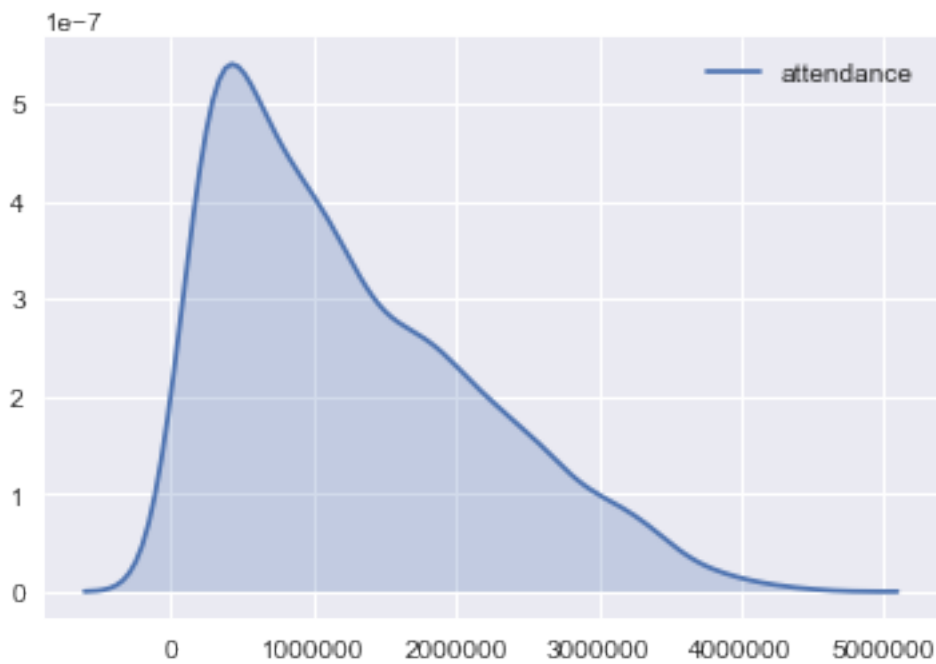


In [97]:

```
sns.kdeplot(team.attendance.dropna(), shade=True)
```

Out[97]:

<matplotlib.axes._subplots.AxesSubplot at 0x11696f320>

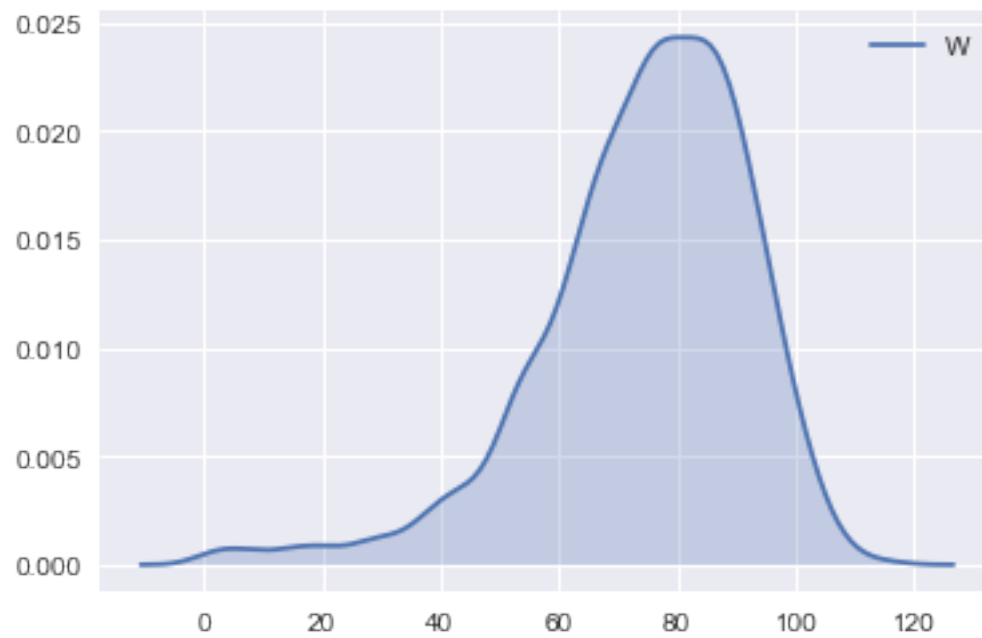


In [98]:

```
sns.kdeplot(team.W.dropna(), shade=True)
```

Out[98]:

<matplotlib.axes._subplots.AxesSubplot at 0x116aad5c0>

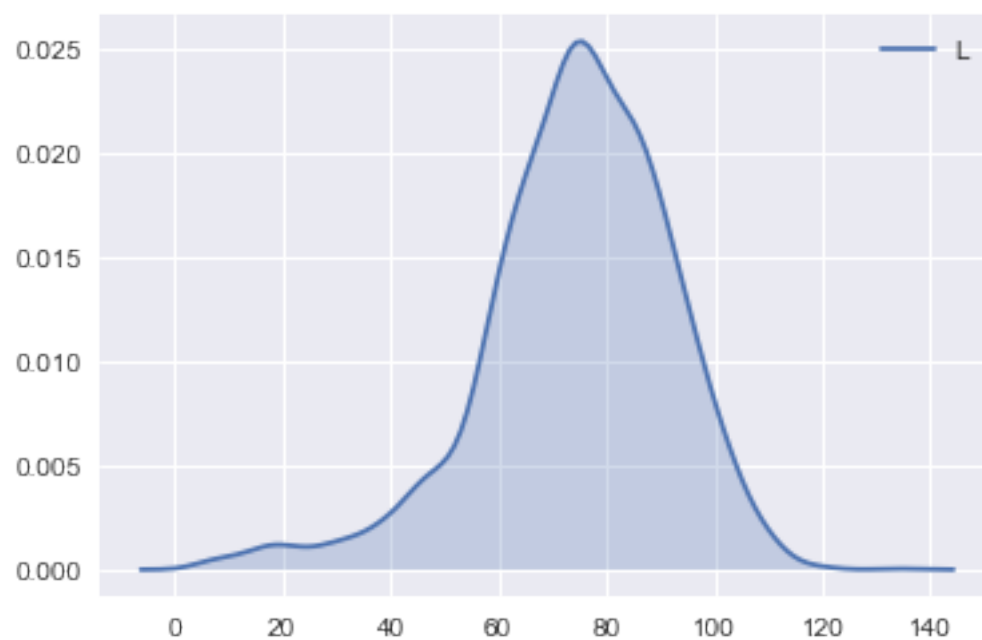


In [99]:

```
sns.kdeplot(team.L.dropna(), shade=True)
```

Out[99]:

<matplotlib.axes._subplots.AxesSubplot at 0x116ba14a8>

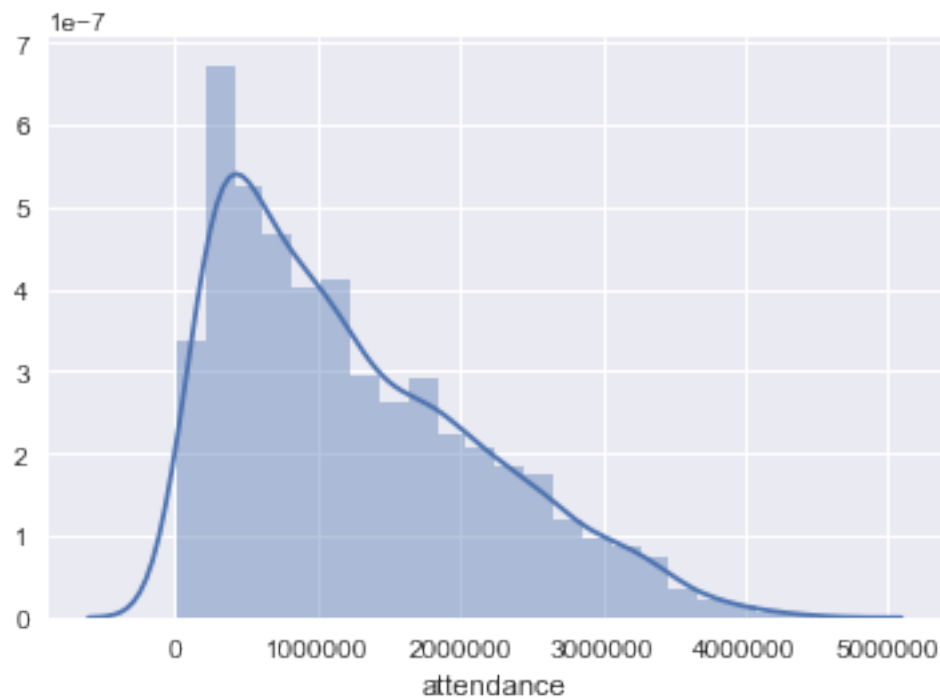


In [100]:

```
sns.distplot(team.attendance.dropna())
```

Out[100]:

<matplotlib.axes._subplots.AxesSubplot at 0x116d7b198>



In [101]:

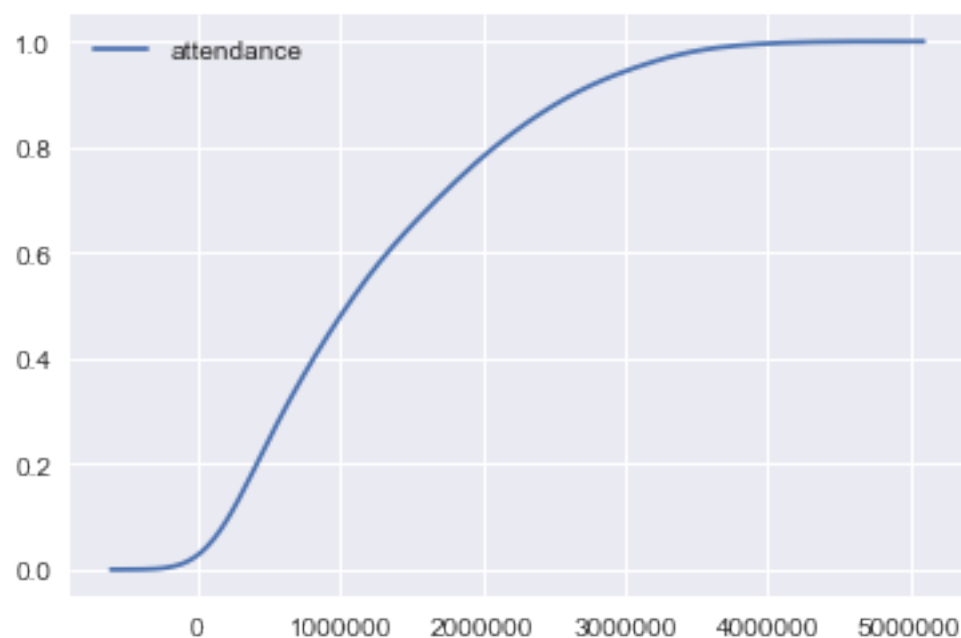
```
#cumulative distribution  
sns.kdeplot(team.attendance.dropna(),cumulative=True)
```

/anaconda/lib/python3.6/site-packages/scipy/integrate/quadpack.py:364:
IntegrationWarning: The integral is probably divergent, or slowly convergent.

```
warnings.warn(msg, IntegrationWarning)
```

Out[101]:

<matplotlib.axes._subplots.AxesSubplot at 0x116e837b8>



In [152]:

```
#sns.barplot(team.attendance.dropna(),team.name)
```

In [153]:

```
teamy=team.dropna()
```

In [155]:

```
len(teamy)
```

Out[155]:

210

In [209]:

```
#
teamu=team[['name','divID','W','L','yearID','attendance','Rank']]
```

In [210]:

```
teams_no_NAN=teamu.dropna()
```

In [211]:

```
teams_no_NAN
```

Out[211]:

	name	divID	W	L	yearID	attendance	Rank
1517	Baltimore Orioles	E	109	53	1969	1062069.0	1
1518	Boston Red Sox	E	87	75	1969	1833246.0	3
1519	California Angels	W	71	91	1969	758388.0	3
1520	Chicago White Sox	W	68	94	1969	589546.0	5
1521	Cleveland Indians	E	62	99	1969	619970.0	6
1522	Detroit Tigers	E	90	72	1969	1577481.0	2
1523	Kansas City Royals	W	69	93	1969	902414.0	4
1524	Minnesota Twins	W	97	65	1969	1349328.0	1
1525	New York Yankees	E	80	81	1969	1067996.0	5
1526	Oakland Athletics	W	88	74	1969	778232.0	2
1527	Seattle Pilots	W	64	98	1969	677944.0	6
1528	Washington Senators	E	86	76	1969	918106.0	4
1529	Atlanta Braves	W	93	69	1969	1458320.0	1

1530	Chicago Cubs	E	92	70	1969	1674993.0	2
1531	Cincinnati Reds	W	89	73	1969	987991.0	3
1532	Houston Astros	W	81	81	1969	1442995.0	5
1533	Los Angeles Dodgers	W	85	77	1969	1784527.0	4
1534	Montreal Expos	E	52	110	1969	1212608.0	6
1535	New York Mets	E	100	62	1969	2175373.0	1
1536	Philadelphia Phillies	E	63	99	1969	519414.0	5
1537	Pittsburgh Pirates	E	88	74	1969	769369.0	3
1538	San Diego Padres	W	52	110	1969	512970.0	6
1539	San Francisco Giants	W	90	72	1969	873603.0	2
1540	St. Louis Cardinals	E	87	75	1969	1682783.0	4
1541	Baltimore Orioles	E	108	54	1970	1057069.0	1
1542	Boston Red Sox	E	87	75	1970	1595278.0	3
1543	California Angels	W	86	76	1970	1077741.0	3
1544	Chicago White Sox	W	56	106	1970	495355.0	6
1545	Cleveland Indians	E	76	86	1970	729752.0	5
1546	Detroit Tigers	E	79	83	1970	1501293.0	4
...
2595	Baltimore Orioles	E	64	98	2009	1907163.0	5
2596	Boston Red Sox	E	95	67	2009	3062699.0	2
2597	Chicago White Sox	C	79	83	2009	2284163.0	3
2598	Cleveland Indians	C	65	97	2009	1766242.0	4
2599	Detroit Tigers	C	86	77	2009	2567165.0	2
2600	Kansas City Royals	C	65	97	2009	1797891.0	4
2601	Los Angeles Angels of Anaheim	W	97	65	2009	3240386.0	1
2602	Minnesota Twins	C	87	76	2009	2416237.0	1
2603	New York Yankees	E	103	59	2009	3719358.0	1
2604	Oakland Athletics	W	75	87	2009	1408783.0	4
2605	Seattle Mariners	W	85	77	2009	2195533.0	3
2606	Tampa Bay Rays	E	84	78	2009	1874962.0	3
2607	Texas Rangers	W	87	75	2009	2156016.0	2
2608	Toronto Blue Jays	E	75	87	2009	1876129.0	4
2609	Arizona Diamondbacks	W	70	92	2009	2128765.0	5
2610	Atlanta Braves	E	86	76	2009	2373631.0	3

2611	Chicago Cubs	C	83	78	2009	3168859.0	2
2612	Cincinnati Reds	C	78	84	2009	1747919.0	4
2613	Colorado Rockies	W	92	70	2009	2665080.0	2
2614	Florida Marlins	E	87	75	2009	1464109.0	2
2615	Houston Astros	C	74	88	2009	2521076.0	5
2616	Los Angeles Dodgers	W	95	67	2009	3761655.0	1
2617	Milwaukee Brewers	C	80	82	2009	3037451.0	3
2618	New York Mets	E	70	92	2009	3168571.0	4
2619	Philadelphia Phillies	E	93	69	2009	3600693.0	1
2620	Pittsburgh Pirates	C	62	99	2009	1577853.0	6
2621	San Diego Padres	W	75	87	2009	1919603.0	4
2622	San Francisco Giants	W	88	74	2009	2862110.0	3
2623	St. Louis Cardinals	C	91	71	2009	3343252.0	1
2624	Washington Nationals	E	59	103	2009	1817226.0	5

1108 rows × 7 columns

In [189]:

```
#teams with more 108 points wins
teams_no_NAN[(teams_no_NAN.W >90)&(teams_no_NAN.yearID==2001)&(teams_no_NAN.attendance>1000000)]
```

Out[189]:

	name	W	L	yearID	attendance
2359	Cleveland Indians	91	71	2001	3175523.0
2363	New York Yankees	95	65	2001	3264907.0
2364	Oakland Athletics	102	60	2001	2133277.0
2365	Seattle Mariners	116	46	2001	3507326.0
2369	Arizona Diamondbacks	92	70	2001	2736451.0
2375	Houston Astros	93	69	2001	2904277.0
2384	St. Louis Cardinals	93	69	2001	3109578.0

In [216]:

```
teams_no_NAN[(teams_no_NAN.divID=='W')&(teams_no_NAN.Rank==1)
              &(teams_no_NAN.name=='Arizona Diamondbacks')]
```

Out[216]:

	name	divID	W	L	yearID	attendance	Rank
2309	Arizona Diamondbacks	W	100	62	1999	3019654.0	1
2369	Arizona Diamondbacks	W	92	70	2001	2736451.0	1
2399	Arizona Diamondbacks	W	98	64	2002	3198977.0	1
2549	Arizona Diamondbacks	W	90	72	2007	2325249.0	1

In [232]:

```
MNtwins=teams_no_NAN[(teams_no_NAN.divID=='C')&(teams_no_NAN.Rank>=1)
                      &(teams_no_NAN.name=='Minnesota Twins')]
```

Out[232]:

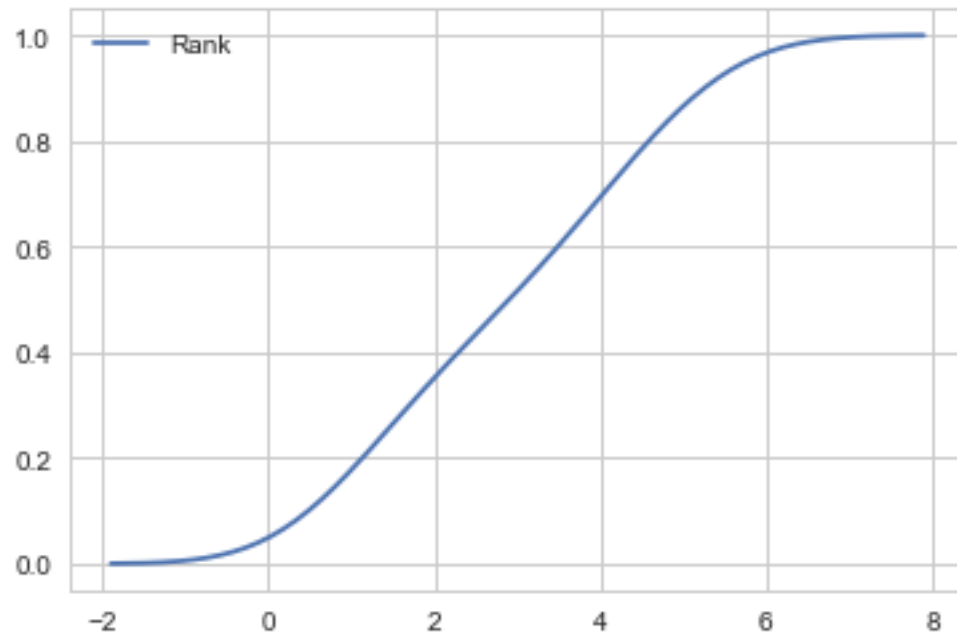
	name	divID	W	L	yearID	attendance	Rank
2160	Minnesota Twins	C	53	60	1994	1398565.0	4
2188	Minnesota Twins	C	56	88	1995	1057667.0	5
2216	Minnesota Twins	C	78	84	1996	1437352.0	4
2244	Minnesota Twins	C	68	94	1997	1411064.0	4
2272	Minnesota Twins	C	70	92	1998	1165976.0	4
2302	Minnesota Twins	C	63	97	1999	1202829.0	5
2332	Minnesota Twins	C	69	93	2000	1000760.0	5
2362	Minnesota Twins	C	85	77	2001	1782929.0	2
2392	Minnesota Twins	C	94	67	2002	1924473.0	1
2422	Minnesota Twins	C	90	72	2003	1946011.0	1
2452	Minnesota Twins	C	92	70	2004	1911490.0	1
2482	Minnesota Twins	C	83	79	2005	2034243.0	3
2512	Minnesota Twins	C	96	66	2006	2285018.0	1
2542	Minnesota Twins	C	79	83	2007	2296383.0	3
2572	Minnesota Twins	C	88	75	2008	2302431.0	2
2602	Minnesota Twins	C	87	76	2009	2416237.0	1

In [233]:

```
#Minnesota twins ranked number only for less than 20% of the time.  
sns.kdeplot(MNtwins.Rank.dropna(),cumulative=True)
```

Out[233]:

<matplotlib.axes._subplots.AxesSubplot at 0x128337cc0>

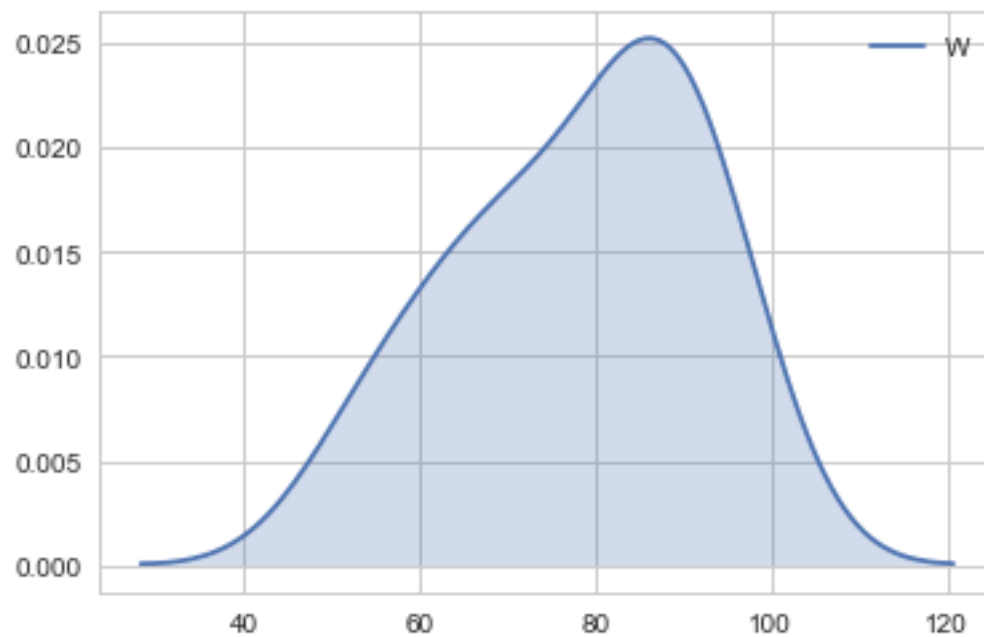


In [236]:

```
sns.kdeplot(MNtwins.W.dropna(), shade=True)
```

Out[236]:

<matplotlib.axes._subplots.AxesSubplot at 0x1287ac630>



In [238]:

```
MNtwins
#Minnesota joined the central division in 1994 based on the dataset
```

Out[238]:

	name	divID	W	L	yearID	attendance	Rank
2160	Minnesota Twins	C	53	60	1994	1398565.0	4
2188	Minnesota Twins	C	56	88	1995	1057667.0	5
2216	Minnesota Twins	C	78	84	1996	1437352.0	4
2244	Minnesota Twins	C	68	94	1997	1411064.0	4
2272	Minnesota Twins	C	70	92	1998	1165976.0	4
2302	Minnesota Twins	C	63	97	1999	1202829.0	5
2332	Minnesota Twins	C	69	93	2000	1000760.0	5
2362	Minnesota Twins	C	85	77	2001	1782929.0	2
2392	Minnesota Twins	C	94	67	2002	1924473.0	1
2422	Minnesota Twins	C	90	72	2003	1946011.0	1
2452	Minnesota Twins	C	92	70	2004	1911490.0	1
2482	Minnesota Twins	C	83	79	2005	2034243.0	3
2512	Minnesota Twins	C	96	66	2006	2285018.0	1
2542	Minnesota Twins	C	79	83	2007	2296383.0	3
2572	Minnesota Twins	C	88	75	2008	2302431.0	2
2602	Minnesota Twins	C	87	76	2009	2416237.0	1

In [239]:

```
#since 1994 Minnesota twins played 16 games in the Central division
len(MNtwins)
```

Out[239]:

16

In [241]:

```
#Minnesota twins was ranked #1 fives out 16 seasons played in the central division
#for each of the five season it ranked #1, MN twin won Central Division title
len(MNtwins[(MNtwins.Rank==1)])
```

Out[241]:

5

In [251]:

```
MNtwins[ (MNtwins.Rank==1) ]
```

Out[251]:

	name	divID	W	L	yearID	attendance	Rank
2392	Minnesota Twins	C	94	67	2002	1924473.0	1
2422	Minnesota Twins	C	90	72	2003	1946011.0	1
2452	Minnesota Twins	C	92	70	2004	1911490.0	1
2512	Minnesota Twins	C	96	66	2006	2285018.0	1
2602	Minnesota Twins	C	87	76	2009	2416237.0	1

In [245]:

```
#Ranked #1 in the western division
#Minnesota twin was ranked first in western division for four seasons
rankedWest=teams_no_NAN[(teams_no_NAN.divID=='W')&(teams_no_NAN.Rank==1)
                        &(teams_no_NAN.name=='Minnesota Twins') ]
```

In [246]:

```
#MN twins won four Wett division titles
len(rankedWest)
```

Out[246]:

4

In [250]:

```
#Minnesota twins won the west division title in 69,70,87 and 91
rankedWest[(rankedWest.Rank==1) ]
```

Out[250]:

	name	divID	W	L	yearID	attendance	Rank
1524	Minnesota Twins	W	97	65	1969	1349328.0	1
1548	Minnesota Twins	W	98	64	1970	1261887.0	1
1976	Minnesota Twins	W	85	77	1987	2081976.0	1
2080	Minnesota Twins	W	95	67	1991	2293842.0	1

In [247]:

```
WestdivMN=teams_no_NAN[(teams_no_NAN.divID=='W')  
                        &(teams_no_NAN.name=='Minnesota Twins') ]
```

In [248]:

```
#Minnesota twin played 25 seasons in the Western division  
#and was ranked first 4 out the 25 seasons  
  
len(WestdivMN)
```

Out[248]:

25

In [249]:

WestdivMN

Out[249]:

	name	divID	W	L	yearID	attendance	Rank
1524	Minnesota Twins	W	97	65	1969	1349328.0	1
1548	Minnesota Twins	W	98	64	1970	1261887.0	1
1572	Minnesota Twins	W	74	86	1971	940858.0	5
1596	Minnesota Twins	W	77	77	1972	797901.0	3
1620	Minnesota Twins	W	81	81	1973	907499.0	3
1644	Minnesota Twins	W	82	80	1974	662401.0	3
1668	Minnesota Twins	W	76	83	1975	737156.0	4
1692	Minnesota Twins	W	85	77	1976	715394.0	3
1716	Minnesota Twins	W	84	77	1977	1162727.0	4
1742	Minnesota Twins	W	73	89	1978	787878.0	4
1768	Minnesota Twins	W	82	80	1979	1070521.0	4
1794	Minnesota Twins	W	77	84	1980	769206.0	3
1820	Minnesota Twins	W	41	68	1981	469090.0	7
1846	Minnesota Twins	W	60	102	1982	921186.0	7
1872	Minnesota Twins	W	70	92	1983	858939.0	5
1898	Minnesota Twins	W	81	81	1984	1598692.0	2
1924	Minnesota Twins	W	77	85	1985	1651814.0	4
1950	Minnesota Twins	W	71	91	1986	1255453.0	6
1976	Minnesota Twins	W	85	77	1987	2081976.0	1
2002	Minnesota Twins	W	91	71	1988	3030672.0	2
2028	Minnesota Twins	W	80	82	1989	2277438.0	5
2054	Minnesota Twins	W	74	88	1990	1751584.0	7
2080	Minnesota Twins	W	95	67	1991	2293842.0	1
2106	Minnesota Twins	W	90	72	1992	2482428.0	2
2132	Minnesota Twins	W	71	91	1993	2048673.0	5

In []:

