In [1]:
```
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
```

In [2]:
```
data = pd.read_csv('forestfires.csv')
```

In [3]:
```
print(data.shape)
```

```
(517, 13)
```

In [4]:
```
data.head()
```

Out[4]:

	X	Y	month	day	FFMC	DMC	DC	ISI	temp	RH	wind	rain	area
0	7	5	mar	fri	86.2	26.2	94.3	5.1	8.2	51	6.7	0.0	0.0
1	7	4	oct	tue	90.6	35.4	669.1	6.7	18.0	33	0.9	0.0	0.0
2	7	4	oct	sat	90.6	43.7	686.9	6.7	14.6	33	1.3	0.0	0.0
3	8	6	mar	fri	91.7	33.3	77.5	9.0	8.3	97	4.0	0.2	0.0
4	8	6	mar	sun	89.3	51.3	102.2	9.6	11.4	99	1.8	0.0	0.0

In [5]:
```
data.isnull().any()
```

Out[5]:
```
X        False
Y        False
month    False
day      False
FFMC     False
DMC      False
DC       False
ISI      False
temp     False
RH       False
wind     False
rain     False
area     False
dtype: bool
```

In [7]:
```
data.describe()
```

Out[7]:

	X	Y	FFMC	DMC	DC	ISI	temp
count	517.000000	517.000000	517.000000	517.000000	517.000000	517.000000	517.000000
mean	4.669246	4.299807	90.644681	110.872340	547.940039	9.021663	18.889168
std	2.313778	1.229900	5.520111	64.046482	248.066192	4.559477	5.806625
min	1.000000	2.000000	18.700000	1.100000	7.900000	0.000000	2.200000
25%	3.000000	4.000000	90.200000	68.600000	437.700000	6.500000	15.500000
50%	4.000000	4.000000	91.600000	108.300000	664.200000	8.400000	19.300000
75%	7.000000	5.000000	92.900000	142.400000	713.900000	10.800000	22.800000
max	9.000000	9.000000	96.200000	291.300000	860.600000	56.100000	33.300000

In [8]:
```
data['month'].value_counts()
```

Out[8]:
```
aug    184
sep    172
mar     54
jul     32
feb     20
jun     17
oct     15
apr      9
dec      9
jan      2
may      2
nov      1
Name: month, dtype: int64
```

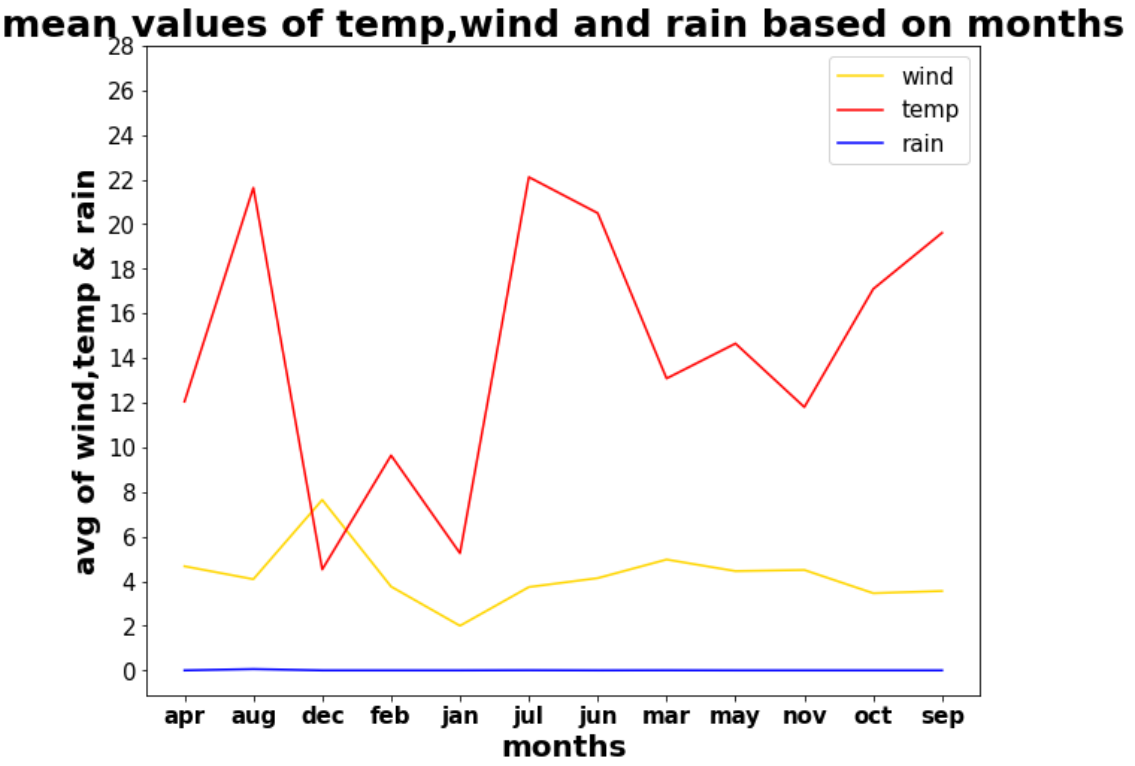
In [9]:
```
month=data.groupby(['month'])['wind'].mean().reset_index()
month
```

Out[9]:

	month	wind
0	apr	4.666667
1	aug	4.086413
2	dec	7.644444
3	feb	3.755000
4	jan	2.000000
5	jul	3.734375
6	jun	4.135294
7	mar	4.968519
8	may	4.450000
9	nov	4.500000
10	oct	3.460000
11	sep	3.557558

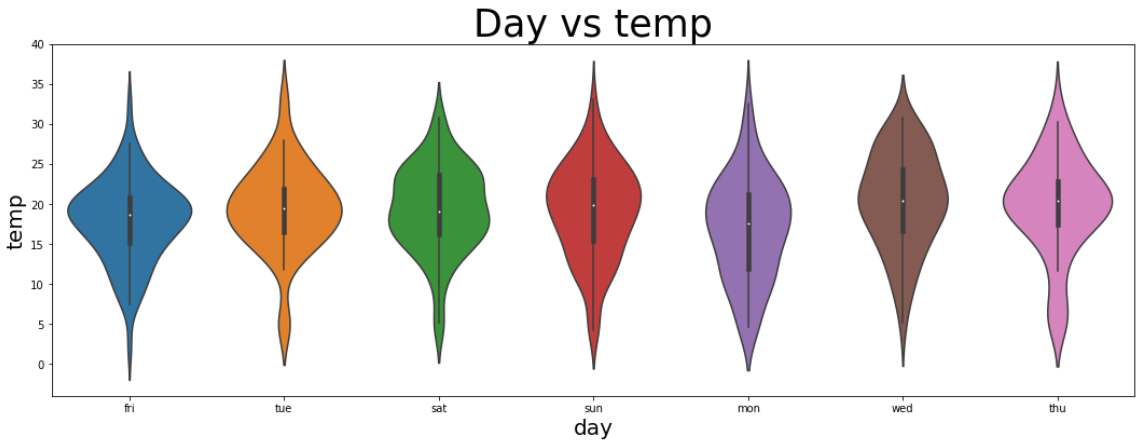
In [10]:
```
temp=data.groupby(['month'])['temp'].mean().reset_index()
rain=data.groupby(['month'])['rain'].mean().reset_index()
month['temp']=temp['temp']
month['rain']=rain['rain']
```

In [13]:
```
plt.figure(figsize=(10,8))
x=month['month'].tolist()
y1=month['wind'].tolist()
y2=month['temp'].tolist()
y3=month['rain'].tolist()
plt.plot(x,y1,color='gold',label='wind')
plt.plot(x,y2,color='red',label='temp')
plt.plot(x,y3,color='blue',label='rain')
plt.title("mean values of temp,wind and rain based on months",fontsiz
plt.xlabel("months",fontsize=20,fontweight='bold')
plt.ylabel("avg of wind,temp & rain",fontsize=20,fontweight='bold')
plt.xticks(x,fontsize=15,fontweight='bold')
plt.yticks(np.arange(0,30,2),fontsize=15)
plt.legend(fontsize=15)
plt.show()
```



In [14]:
```
plt.figure(figsize = (18, 6))
sns.violinplot(x = 'day', y = 'temp', data = data)
plt.title('Day vs temp',fontsize=35)
plt.xlabel("day",fontsize=20)
plt.ylabel("temp",fontsize=20)
```

Out[14]:
```
Text(0, 0.5, 'temp')
```



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