-BoxPlot

In [1]:
```
import seaborn as sns

sns.set(style = "whitegrid")
fmri = sns.load_dataset("fmri")
fmri
```

Out[1]:

	subject	timepoint	event	region	signal
0	s13	18	stim	parietal	-0.017552
1	s5	14	stim	parietal	-0.080883
2	s12	18	stim	parietal	-0.081033
3	s11	18	stim	parietal	-0.046134
4	s10	18	stim	parietal	-0.037970
...	...	...	...	...	...
1059	s0	8	cue	frontal	0.018165
1060	s13	7	cue	frontal	-0.029130
1061	s12	7	cue	frontal	-0.004939
1062	s11	7	cue	frontal	-0.025367
1063	s0	0	cue	parietal	-0.006899

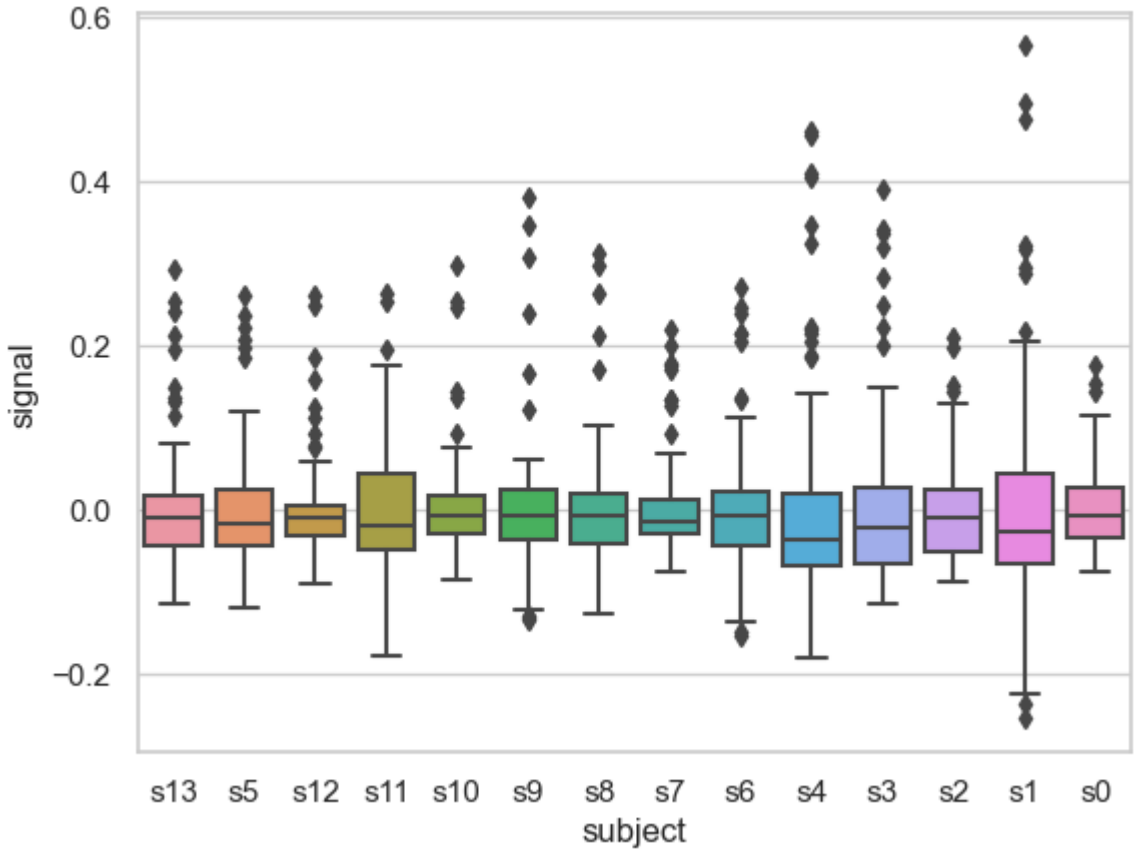
1064 rows × 5 columns

In [2]:
```
import seaborn as sns

sns.set(style = "whitegrid")
fmri = sns.load_dataset("fmri")
fmri

# Boxplot
sns.boxplot(x="subject",y="signal", data=fmri)
```

Out[2]:
```
<Axes: xlabel='subject', ylabel='signal'>
```

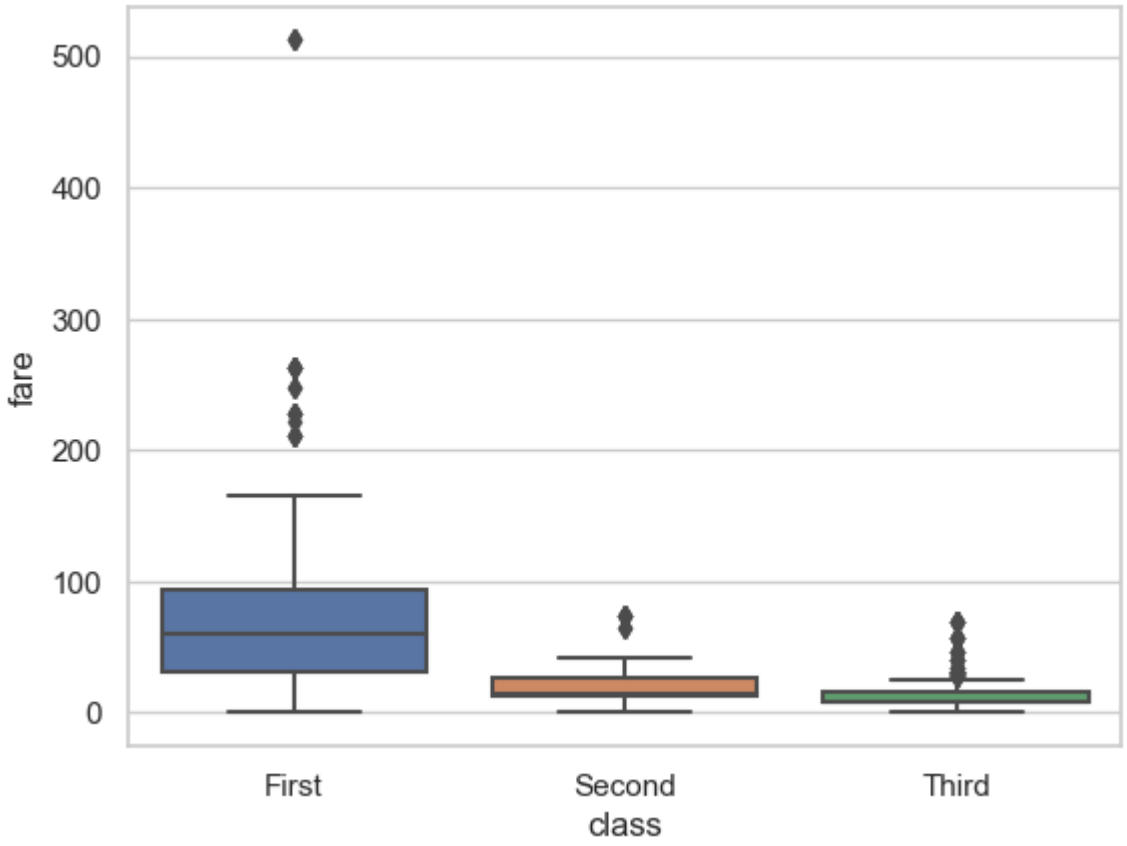


In [3]:
```
import seaborn as sns

sns.set(style = "whitegrid")
fmri = sns.load_dataset("titanic")
fmri

# Boxplot
sns.boxplot(x="class",y="fare", data=fmri)
```

Out[3]:
```
<Axes: xlabel='class', ylabel='fare'>
```



In [4]:
```
import seaborn as sns

sns.set(style = "whitegrid")
fmri = sns.load_dataset("tips")
fmri
```

Out[4]:

	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4
...	...	...	...	...	...	...	...
239	29.03	5.92	Male	No	Sat	Dinner	3
240	27.18	2.00	Female	Yes	Sat	Dinner	2
241	22.67	2.00	Male	Yes	Sat	Dinner	2
242	17.82	1.75	Male	No	Sat	Dinner	2
243	18.78	3.00	Female	No	Thur	Dinner	2

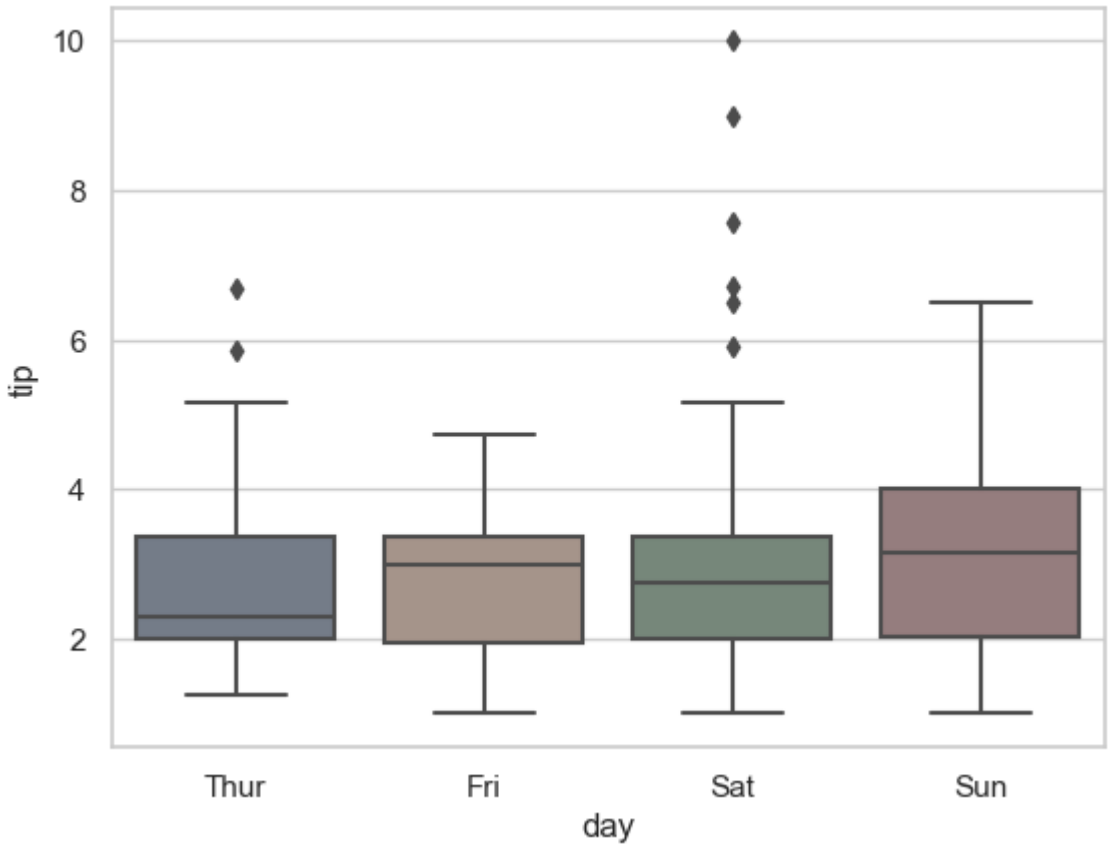
244 rows × 7 columns

In [5]:
```
import seaborn as sns

sns.set(style = "whitegrid")
fmri = sns.load_dataset("tips")
fmri

# Boxplot
sns.boxplot(x="day",y="tip", data=fmri,saturation=0.2)
```

Out[5]:
```
<Axes: xlabel='day', ylabel='tip'>
```



In [6]:
```
import seaborn as sns
import pandas as pd
import numpy as np
sns.set(style = "whitegrid")
fmri = sns.load_dataset("tips")
fmri.describe()

# Boxplot
# sns.boxplot(x="day",y="tip", data=fmri,saturation=0.2)
```

Out[6]:

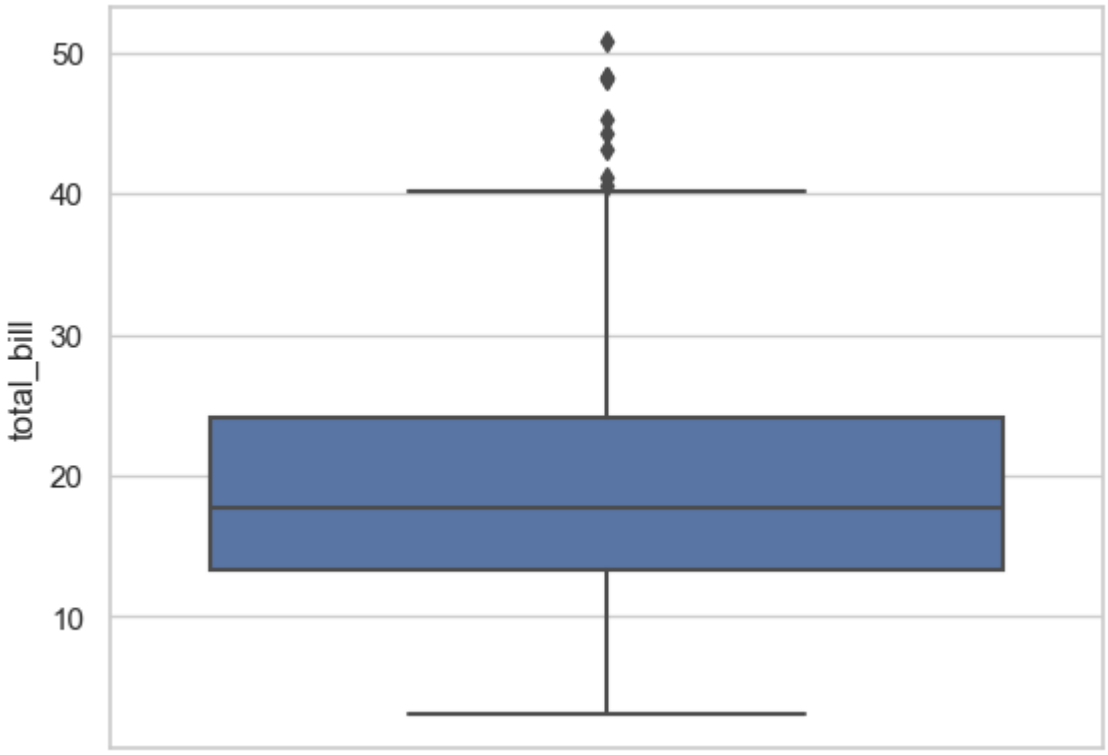
	total_bill	tip	size
count	244.000000	244.000000	244.000000
mean	19.785943	2.998279	2.569672
std	8.902412	1.383638	0.951100
min	3.070000	1.000000	1.000000
25%	13.347500	2.000000	2.000000
50%	17.795000	2.900000	2.000000
75%	24.127500	3.562500	3.000000
max	50.810000	10.000000	6.000000

In [7]:
```
import seaborn as sns

sns.set(style = "whitegrid")
fmri = sns.load_dataset("tips")
fmri

# Boxplot
sns.boxplot(y=fmri["total_bill"])
```

Out[7]:
```
<Axes: ylabel='total_bill'>
```

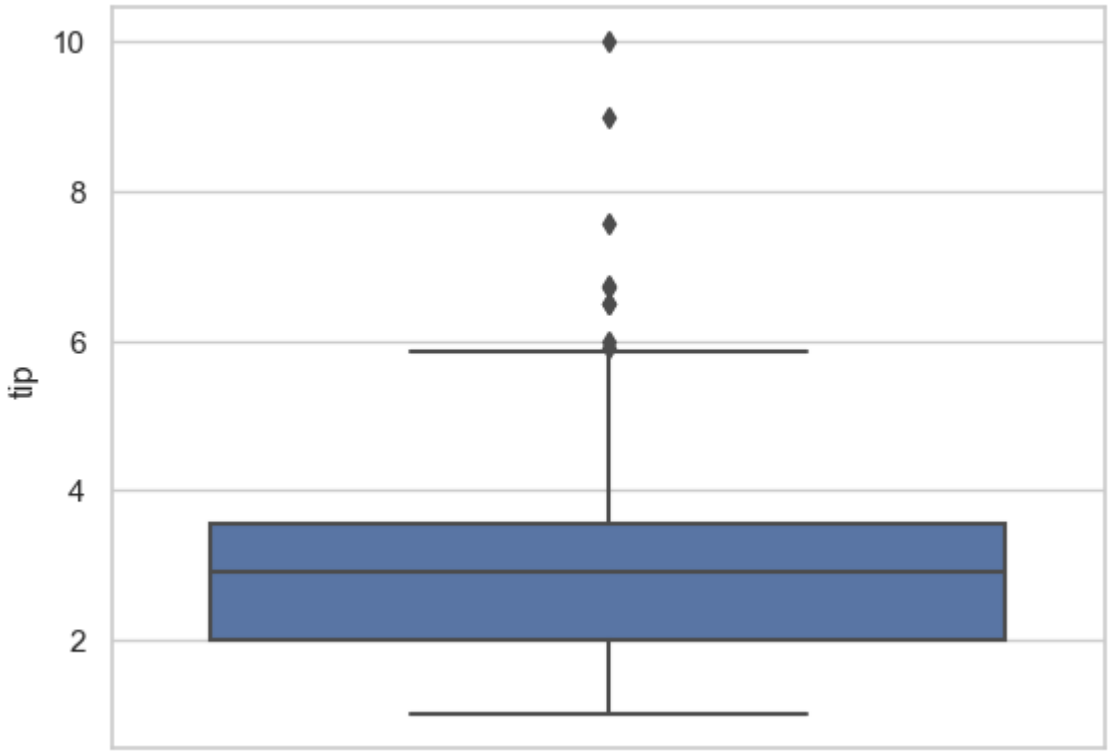


In [8]:
```
import seaborn as sns

sns.set(style = "whitegrid")
fmri = sns.load_dataset("tips")
fmri
```

```
# Boxplot
sns.boxplot(y=fmri["tip"])
```

Out[8]:
```
<Axes: ylabel='tip'>
```



In [ ]:
```
import seaborn as sns

sns.set(style = "whitegrid")
fmri = sns.load_dataset("tips")
fmri

# Boxplot
sns.boxplot(x="tip",y="day",hue="smoker",
            palette="Set2",data=fmri)
```

Out[ ]:
```
<Axes: xlabel='tip', ylabel='day'>
```

In [ ]:
```
import seaborn as sns

sns.set(style = "whitegrid")
fmri = sns.load_dataset("tips")
fmri

# Boxplot
sns.boxplot( data=fmri,orient = "h",palette= "Set2")
```

In [ ]:
```
# import library & dataset
import seaborn as sns


tips = sns.load_dataset("tips")
ax = sns.boxplot(data=tips, orient="v", palette="Set2")
```

In [ ]:
```
import seaborn as sns
import pandas as pd
import matplotlib.pyplot as plt
sns.set_style('darkgrid')
fig, ax = plt.subplots()

a = pd.DataFrame({'Program': ['A', 'A', 'B', 'B', 'Total', 'Total'],
                  'Scenario': ['X', 'Y', 'X', 'Y', 'X', 'Y'],
                  'Duration': [4, 3, 5, 4, 9, 7]})

g = sns.barplot(data=a, x='Scenario', y='Duration',
                hue='Program', errorbar=None)
plt.tight_layout()
plt.savefig('3 progs.png')

plt.clf()

b = pd.DataFrame({'Program': ['A', 'A', 'B', 'B', 'C', 'C', 'Total', 'Total'],
                  'Scenario': ['X', 'Y', 'X', 'Y', 'X', 'Y', 'X', 'Y'],
                  'Duration': [4, 3, 5, 4, 3, 2, 12, 9]})

g = sns.barplot(data=b, x='Scenario', y='Duration',
                hue='Program', errorbar=None)
plt.tight_layout()
plt.savefig('4 progs.png')
```

In [ ]:
```
import seaborn as sns
import numpy as np
import pandas as pd

titanic = sns.load_dataset("titanic")
titanic.head()
```

In [ ]:
```
 sns.boxplot(x="survived"
            ,y="age"
            ,data=titanic)
```

In [ ]:
```
# p1+showmeans = True
```

In [ ]:
```
 sns.boxplot(x="survived"
            ,y="age",showmeans =True
            ,data=titanic)
```

In [ ]:
```
 sns.boxplot(x="survived"
            ,y="age",
             showmeans =True,
             meanprops ={"marker":"*",
                         "markersize":"16",
                         "markeredgecolor":"yellow"},
            data=titanic)
```

In [ ]:
```
 sns.boxplot(x="survived"
            ,y="age",
             showmeans =True,
             meanprops ={"marker":"*",
                         "markersize":"16",
                         "markeredgecolor":"yellow"},
```

```
            data=titanic)

#     Show lables
plt.xlabel("Kitne mary or kitne bache",size = 18,weight= "bold"),
plt.ylabel("age kitni ha",size = 18,weight= "bold"),
plt.title("Titanic jahaazz ka azab",size = 18,weight= "bold")
```

Assignment

- facet wrap and facet grid in boxplot

FacetGrid

- facegrid boxplot is used to differeniate plots into sub plots
- i.e lets discuss the examples

In [ ]:
```
# import seaborn as sns
# import numpy as np
# import pandas as pd

# titanic = sns.load_dataset("titanic")

# fg = sns.FacetGrid(titanic)
# fg.map(plt.boxplot,"sex","fare")
```