```python
# import pandas
import pandas as pd

Copy_of_Auction=pd.read_csv("F:\KRISHNA\PG Data Engineering\
Assignments\Copy_of_Auction.csv")
Copy_of_Auction
```

	TEAM	PLAYER	TYPE
PRICE	\		
0	Kolkata Knight Riders	Pat Cummins	All-Rounder
15.50			
1	Kings XI Punjab	Glenn Maxwell	All-Rounder
10.75			
2	Royal Challengers Bangalore	Christopher Morris	All-Rounder
10.00			
3	Kings XI Punjab	Sheldon Cottrell	Bowler
8.50			
4	Mumbai Indians	Nathan Coulter-Nile	Bowler
8.00			
5	Delhi Capitals	Shimron Hetmyer	Batsman
7.75			
6	Chennai Super Kings	Piyush Chawla	Bowler
6.75			
7	Chennai Super Kings	Sam Curran	All-Rounder
5.50			
8	Rajasthan Royals	Jaydev Unadkat	Bowler
8.40			
9	Kings XI Punjab	Varun Chakaravarthy	All-Rounder
8.40			
10	Kings XI Punjab	Sam Curran	All-Rounder
7.20			
11	Delhi Capitals	Colin Ingram	Batsman
6.40			
12	Kolkata Knight Riders	Carlos Brathwaite	All-Rounder
5.00			
13	Delhi Capitals	Axar Rajesh Patel	All-Rounder
5.00			
14	Chennai Super Kings	Mohit Sharma	Bowler
5.00			
15	Royal Challengers Bangalore	Shivam Dube	All-Rounder
5.00			
16	Rajasthan Royals	Benjamin Stokes	All-Rounder
12.50			
17	Rajasthan Royals	Jaydev Unadkat	Bowler
11.50			
18	Sunrisers Hyderabad	Manish Pandey	Batsman
11.00			
19	Kings XI Punjab	KL Rahul	Batsman
11.00			
20	Kolkata Knight Riders	Chris Lynn	Batsman
9.60			

21	Kolkata Knight Riders	Mitchell Starc	Bowler	9.40
22	Delhi Daredevils	Glenn Maxwell	All-Rounder	9.00
23	Sunrisers Hyderabad	Rashid Khan Arman	Bowler	9.00
24	Rising Pune Supergiant	Benjamin Stokes	All-Rounder	14.50
25	Royal Challengers Bangalore	Tymal Mills	Bowler	12.00
26	Kolkata Knight Riders	Trent Boult	Bowler	5.00
27	Delhi Daredevils	Kagiso Rabada	Bowler	5.00
28	Delhi Daredevils	Patrick Cummins	Bowler	4.50
29	Kolkata Knight Riders	Chris Woakes	All-Rounder	4.20
30	Sunrisers Hyderabad	Rashid Khan Arman	Bowler	4.00
31	Kolkata Knight Riders	Nathan Coulter-Nile	Bowler	3.50
32	Royal Challengers Bangalore	Shane Watson	All-Rounder	9.50
33	Delhi Daredevils	Pawan Negi	All-Rounder	8.50
34	Delhi Daredevils	Christopher Morris	All-Rounder	7.00
35	Sunrisers Hyderabad	Yuvraj Singh	All-Rounder	7.00
36	Kings XI Punjab	Mohit Sharma	Bowler	6.50
37	Sunrisers Hyderabad	Ashish Nehra	Bowler	5.50
38	Rising Pune Supergiants	Mitchell Marsh	All-Rounder	4.80
39	Rising Pune Supergiants	M. Ashwin	Bowler	4.50
40	Delhi Daredevils	Yuvraj Singh	Batsman	16.00
41	Royal Challengers Bangalore	Dinesh Karthik	Wicket Keeper	10.50
42	Delhi Daredevils	Angelo Mathews	All-Rounder	7.50
43	Delhi Daredevils	Zaheer Khan	Bowler	4.00
44	Sunrisers Hyderabad	Trent Boult	Bowler	3.80
45	Delhi Daredevils	Amit Mishra	Bowler	3.50

46	Mumbai Indians	Aaron Finch	Batsman	3.20
47	Kings XI Punjab	Murali Vijay	Batsman	3.00
48	Royal Challengers Bangalore	Yuvraj Singh	All-Rounder	14.00
49	Delhi Daredevils	Dinesh Karthik	Wicket Keeper	12.50
50	Delhi Daredevils	Kevin Pietersen	Batsman	9.00
51	Kings XI Punjab	Mitchell Johnson	All-Rounder	6.50
52	Kings XI Punjab	Glenn Maxwell	All-Rounder	6.00
53	Kolkata Knight Riders	Jacques Kallis	All-Rounder	5.50
54	Sunrisers Hyderabad	David Warner	Batsman	5.50
55	Kolkata Knight Riders	Robin Uthappa	Batsman	5.00

	YEAR
0	2020
1	2020
2	2020
3	2020
4	2020
5	2020
6	2020
7	2020
8	2019
9	2019
10	2019
11	2019
12	2019
13	2019
14	2019
15	2019
16	2018
17	2018
18	2018
19	2018
20	2018
21	2018
22	2018
23	2018
24	2017
25	2017
26	2017
27	2017

```
28    2017
29    2017
30    2017
31    2017
32    2016
33    2016
34    2016
35    2016
36    2016
37    2016
38    2016
39    2016
40    2015
41    2015
42    2015
43    2015
44    2015
45    2015
46    2015
47    2015
48    2014
49    2014
50    2014
51    2014
52    2014
53    2014
54    2014
55    2014
```

```python
# (1) Draw a Boxplot from Auction.xlsx or Auction.csv corresponding to
Player Type and Price
import matplotlib.pyplot as plt
box=plt.boxplot(Copy_of_Auction['PRICE'])
box
```

```
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  <matplotlib.lines.Line2D at 0x26febcb9c40>],
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```
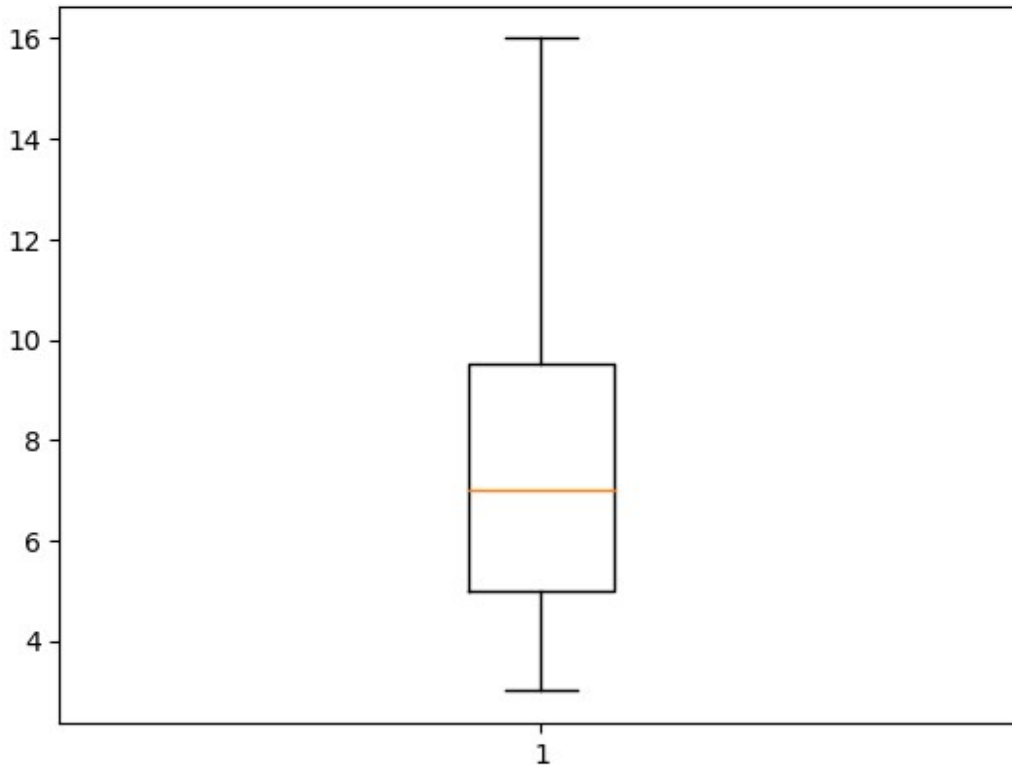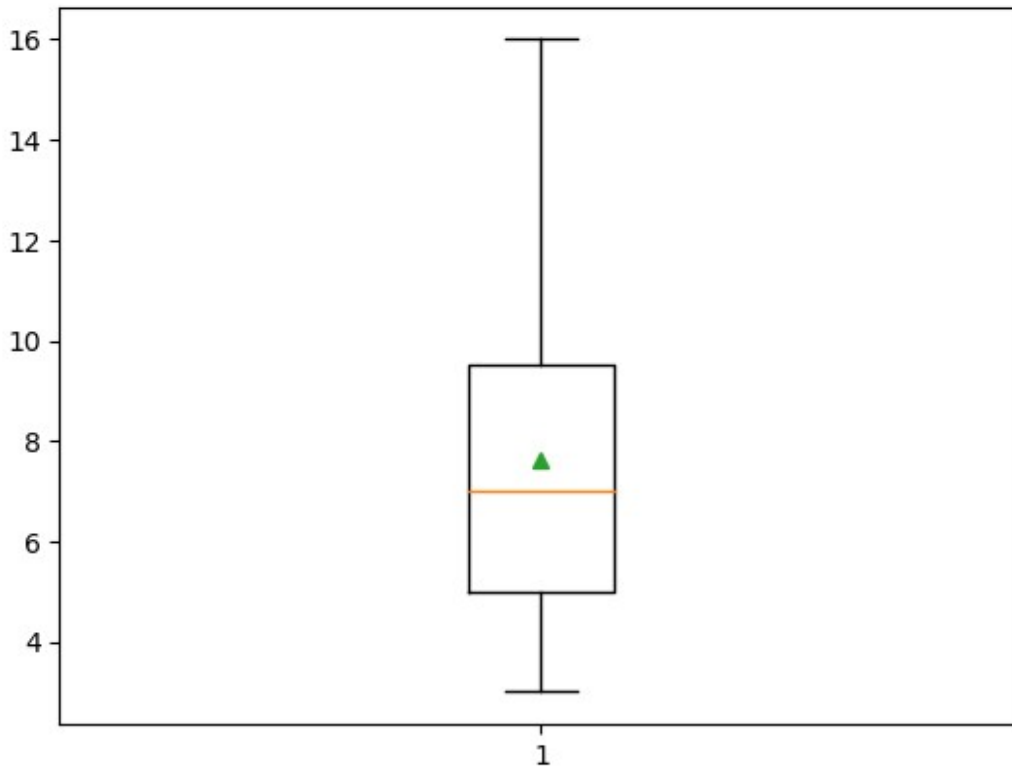
```python
print(Copy_of_Auction[Copy_of_Auction['PRICE']>10])
```

	TEAM	PLAYER	TYPE
PRICE	YEAR		
0	Kolkata Knight Riders	Pat Cummins	All-Rounder
15.50	2020		
1	Kings XI Punjab	Glenn Maxwell	All-Rounder
10.75	2020		
16	Rajasthan Royals	Benjamin Stokes	All-Rounder
12.50	2018		
17	Rajasthan Royals	Jaydev Unadkat	Bowler
11.50	2018		
18	Sunrisers Hyderabad	Manish Pandey	Batsman
11.00	2018		
19	Kings XI Punjab	KL Rahul	Batsman
11.00	2018		
24	Rising Pune Supergiant	Benjamin Stokes	All-Rounder
14.50	2017		
25	Royal Challengers Bangalore	Tymal Mills	Bowler
12.00	2017		
40	Delhi Daredevils	Yuvraj Singh	Batsman
16.00	2015		
41	Royal Challengers Bangalore	Dinesh Karthik	Wicket Keeper
10.50	2015		
48	Royal Challengers Bangalore	Yuvraj Singh	All-Rounder
14.00	2014		

```
49            Delhi Daredevils   Dinesh Karthik  Wicket Keeper
12.50  2014
```

```python
plt.boxplot(Copy_of_Auction["PRICE"])
```

```
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  <matplotlib.lines.Line2D at 0x26fed0da310>],
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 'means': []}
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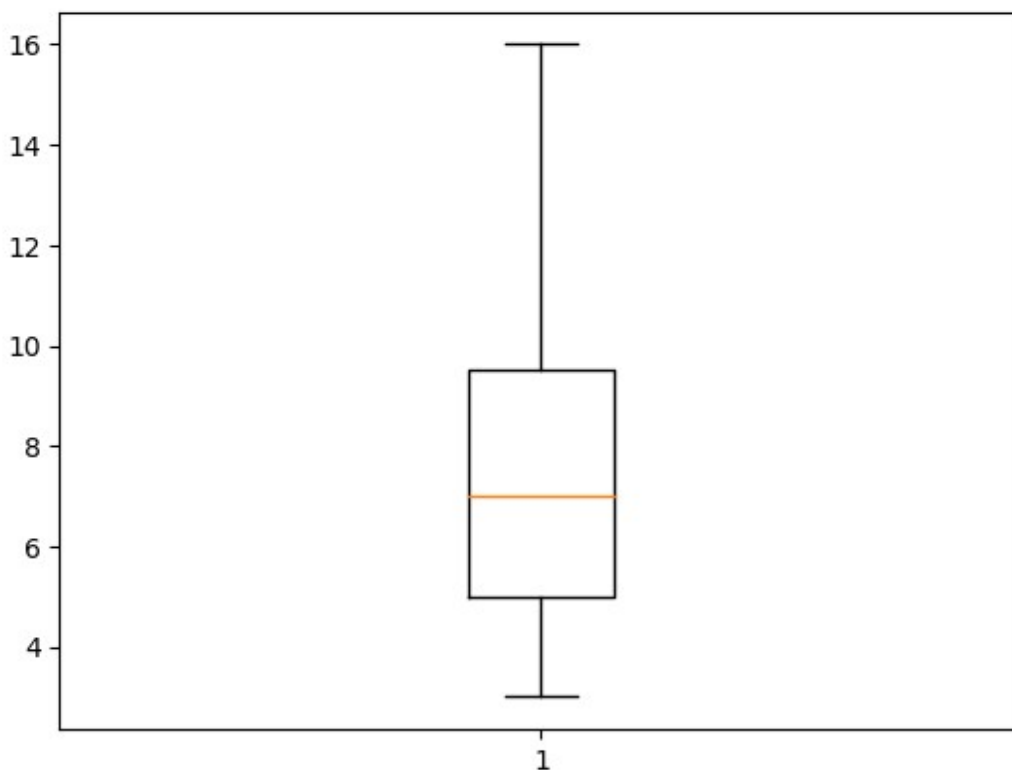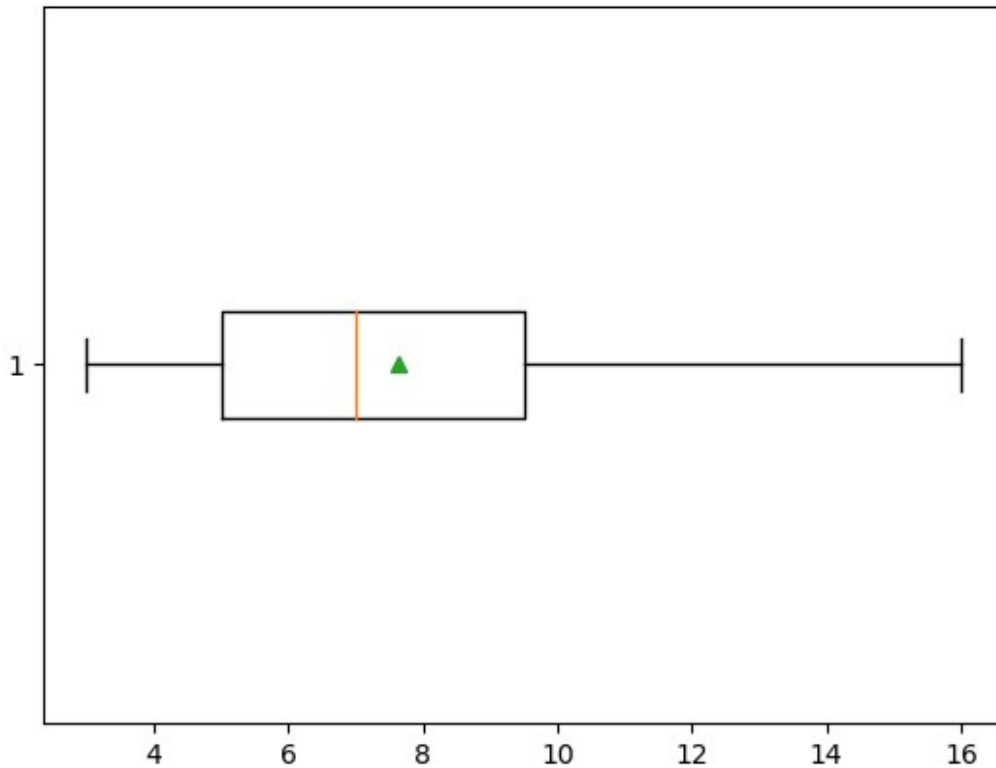


```python
# with the following keys representing the main elements of a boxplot
box.keys()
```

```
dict_keys(['whiskers', 'caps', 'boxes', 'medians', 'fliers', 'means'])
```

```python
Copy_of_Auction.columns
```

```
Index(['TEAM', 'PLAYER', 'TYPE', 'PRICE', 'YEAR'], dtype='object')
```

```python
plt.boxplot(Copy_of_Auction['PRICE'],showmeans=True)
```

```
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  <matplotlib.lines.Line2D at 0x26fed082f40>],
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```

```
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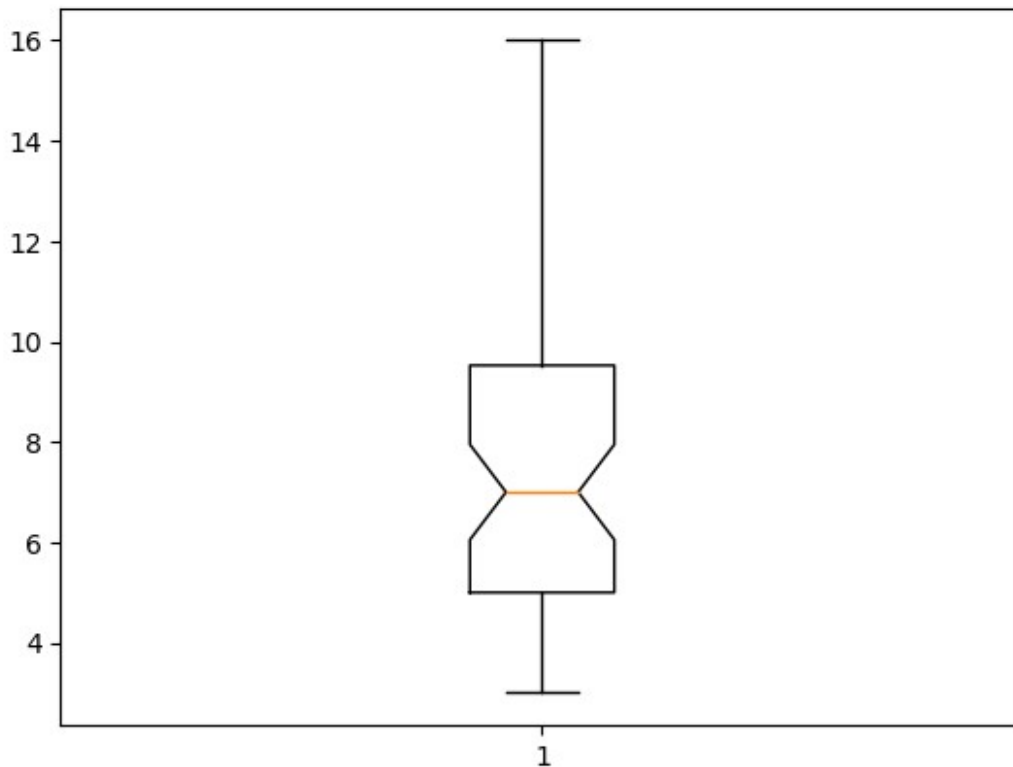


```python
plt.boxplot(Copy_of_Auction['PRICE'],showmeans=True, vert=False)
```

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 'means': [<matplotlib.lines.Line2D at 0x26febc88640>]}
```

```
plt.boxplot(Copy_of_Auction['PRICE'],1,sym='c+')
```

```
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 'caps': [<matplotlib.lines.Line2D at 0x26fed0891f0>,
  <matplotlib.lines.Line2D at 0x26fed0894c0>],
 'boxes': [<matplotlib.lines.Line2D at 0x26fed43b940>],
 'medians': [<matplotlib.lines.Line2D at 0x26fed089790>],
 'fliers': [<matplotlib.lines.Line2D at 0x26fed089a60>],
 'means': []}
```
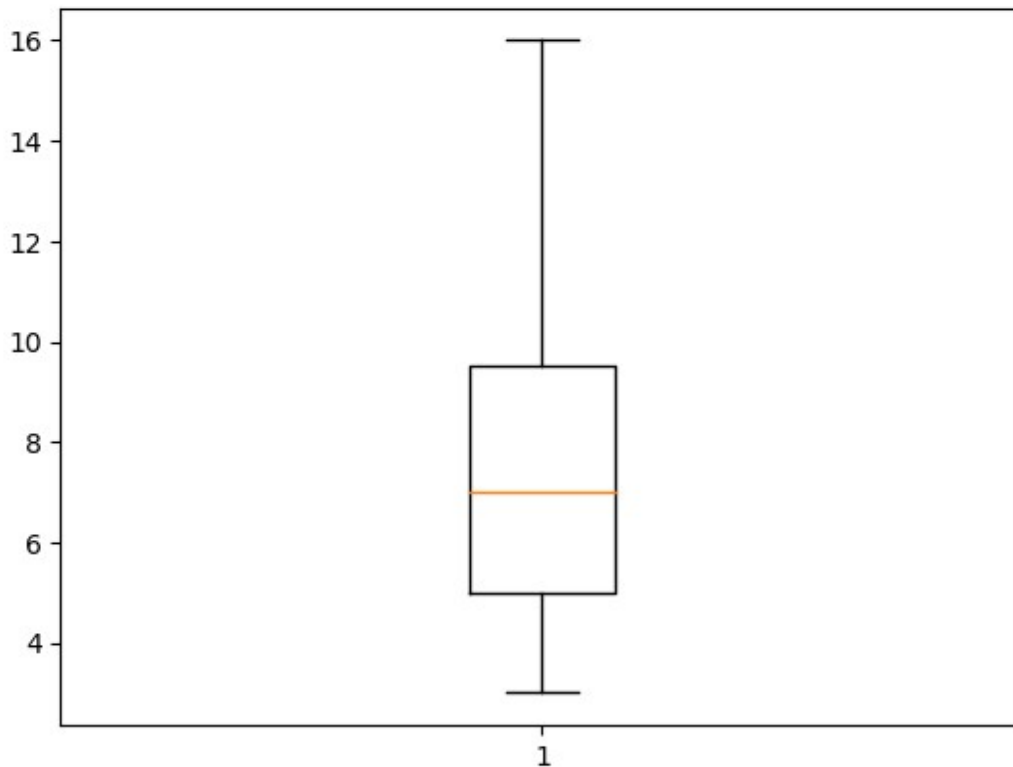
```
plt.boxplot(Copy_of_Auction['PRICE'],0)
```

```
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  <matplotlib.lines.Line2D at 0x26fed31cc40>],
 'caps': [<matplotlib.lines.Line2D at 0x26fed31cf10>,
  <matplotlib.lines.Line2D at 0x26fed32a220>],
 'boxes': [<matplotlib.lines.Line2D at 0x26fed31c6a0>],
 'medians': [<matplotlib.lines.Line2D at 0x26fed32a4f0>],
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 'means': []}
```
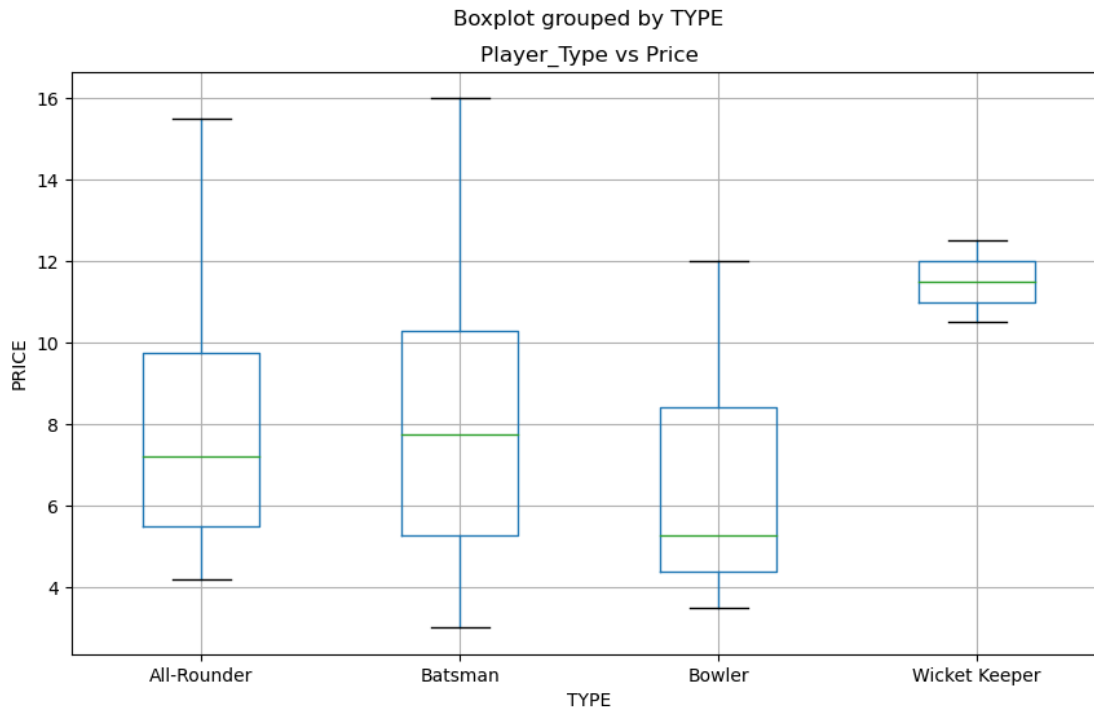
```python
# (2) Compute following from Box plot for Player Type: All Rounder,
Batsman and Bowler
Player=Copy_of_Auction.boxplot(column="PRICE", by="TYPE",
figsize=(10,6))
Player.set_ylabel("PRICE")
Player.set_title("Player_Type vs Price")
```

Text(0.5, 1.0, 'Player_Type vs Price')

Player_Type vs Price


```
# (2) Compute following from Box plot for Player Type: All Rounder,
Batsman and Bowler
Player=Copy_of_Auction.boxplot(column="PRICE", by="TYPE",
figsize=(10,6))
Player.set_ylabel("PRICE")
Player.set_title("Player_Type")

Text(0.5, 1.0, 'Player_Type')
```

Boxplot grouped by TYPE

Player_Type