In [2]:
```
import pandas as pd
```

Reading csv file

In [45]:
```
data = pd.read_csv("IPL Ball-by-Ball 2008-2020.csv")


data["batting_team"] = data["batting_team"].replace('Rising Pune Supergiants','Ri
data["bowling_team"] = data["bowling_team"].replace('Rising Pune Supergiants','Ri
data["batting_team"] = data["batting_team"].replace('Delhi Daredevils','Delhi Cap
data["bowling_team"] = data["bowling_team"].replace('Delhi Daredevils','Delhi Cap

data.head()
```

Out[45]:

	id	inning	over	ball	batsman	non_striker	bowler	batsman_runs	extra_runs	total_runs
0	335982	1	6	5	RT Ponting	BB McCullum	AA Noffke	1	0	1
1	335982	1	6	6	BB McCullum	RT Ponting	AA Noffke	1	0	1
2	335982	1	7	1	BB McCullum	RT Ponting	Z Khan	0	0	0
3	335982	1	7	2	BB McCullum	RT Ponting	Z Khan	1	0	1
4	335982	1	7	3	RT Ponting	BB McCullum	Z Khan	1	0	1

Most Wickets

In [19]:
```
data['dismissal_kind'].unique()
```

Out[19]:
```
array([nan, 'caught', 'run out', 'bowled', 'lbw', 'retired hurt',
       'stumped', 'caught and bowled', 'hit wicket',
       'obstructing the field'], dtype=object)
```

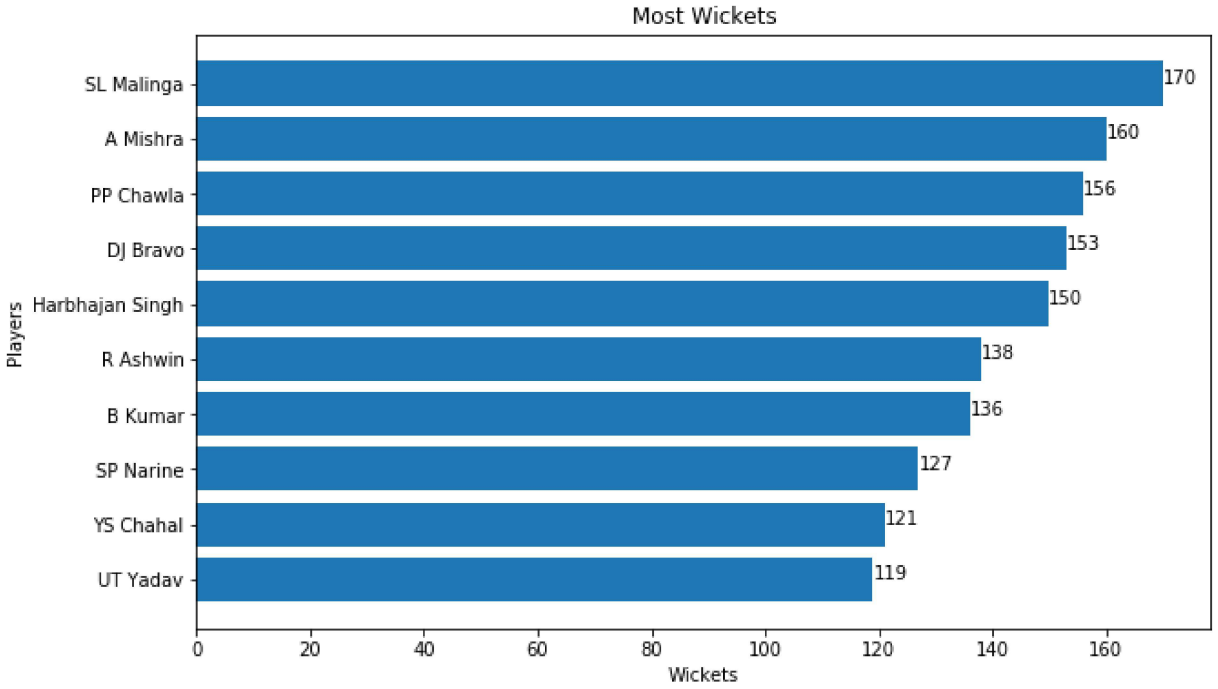
In [20]:
```
df=data[(data['is_wicket']==1) & (data["dismissal_kind"].isin(['caught', 'bowled'
results = df.groupby("bowler").count()
```

In [21]:
```
import matplotlib.pyplot as plt
```

In [22]:
```
top10 = results.sort_values(by='id')["id"].tail(10)

players = top10.index

plt.figure(figsize=(10,6))
plt.barh(players,top10.values)
for index, value in enumerate(top10.values):
    plt.text(value, index, str(value))
plt.title('Most Wickets')
plt.xlabel('Wickets')
plt.ylabel('Players')
plt.savefig('Most Wickets.png', dpi=300, bbox_inches='tight')
plt.show()
```



Runs on each Ball

In [12]:
```
df = data[data['is_wicket']!=1]
results = df.groupby("batsman_runs").count()
results["id"]
```

Out[12]:
```
batsman_runs
0    68449
1    71645
2    12395
3      616
4    21907
5       60
6     8901
Name: id, dtype: int64
```

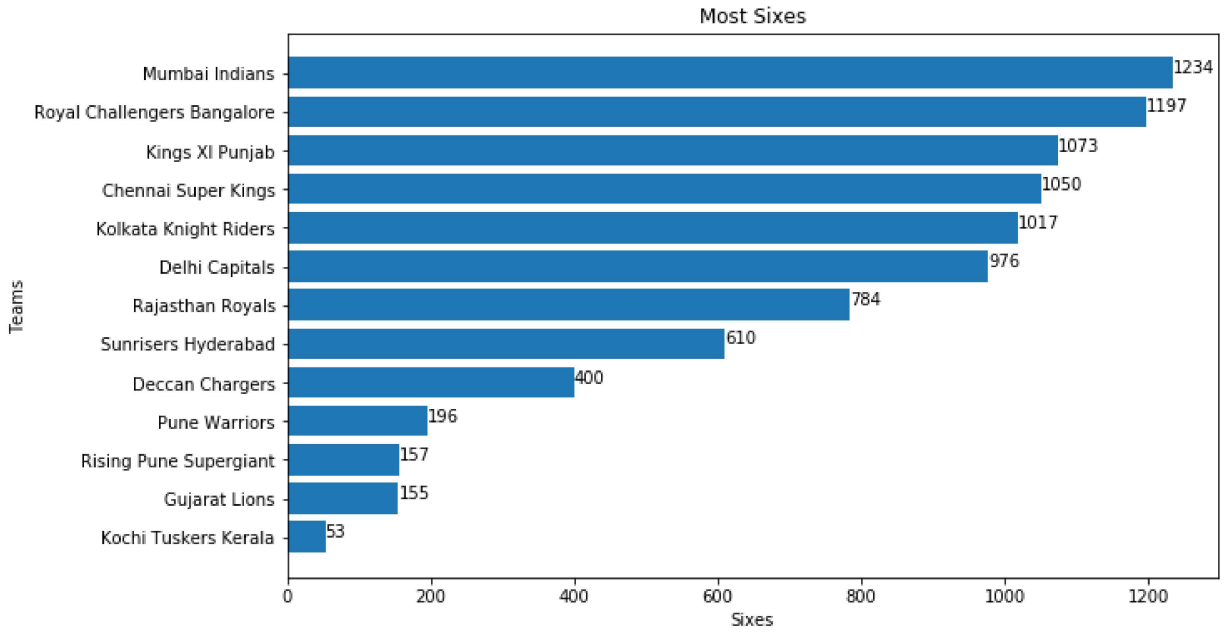
Most Sixes By Each Team

In [35]:
```
df = data[data["batsman_runs"]==6]
results = df.groupby("batting_team").count()
```

In [25]:
```
top10 = results.sort_values(by='id')["id"]

players = top10.index

plt.figure(figsize=(10,6))
plt.barh(players,top10.values)
for index, value in enumerate(top10.values):
    plt.text(value, index, str(value))
plt.title('Most Sixes')
plt.xlabel('Sixes')
plt.ylabel('Teams')
plt.savefig('Most Sixes By Teams.png', dpi=300, bbox_inches='tight')
plt.show()
```



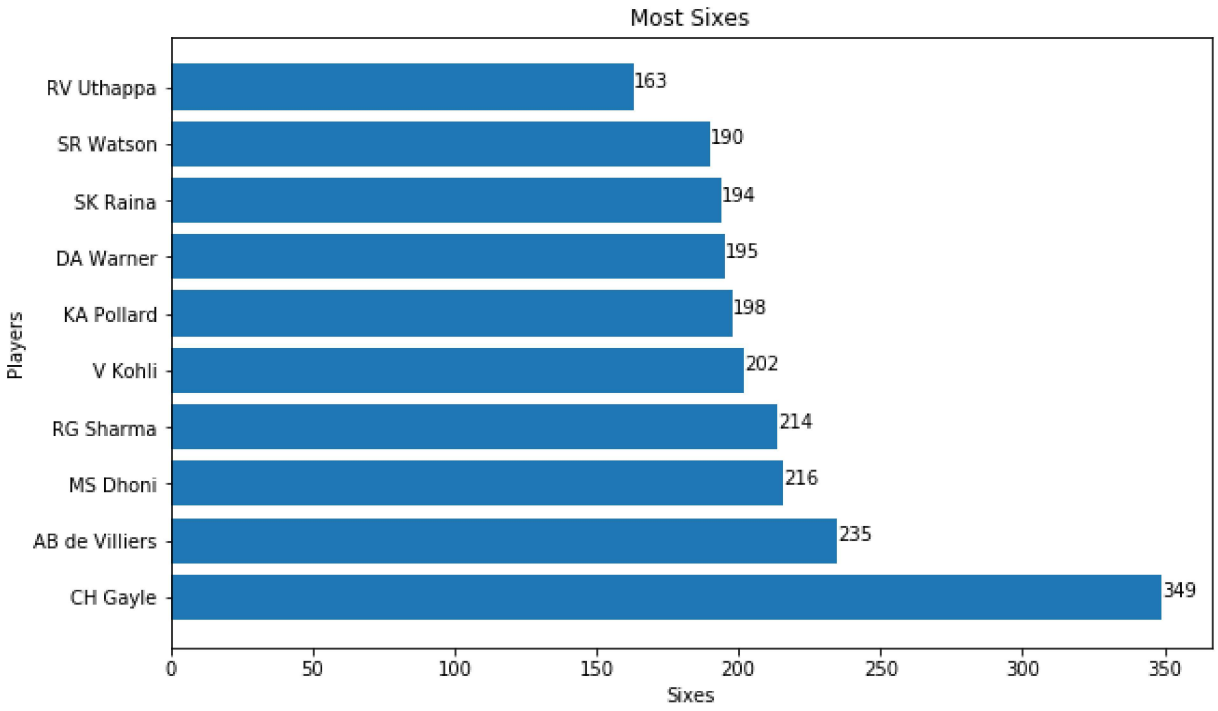
Most Sixes By Players

In [36]:
```
df = data[data["batsman_runs"]==6]
results = df.groupby("batsman").count()
```

In [38]:
```
top10 = results.sort_values(by='id',ascending=False,)["id"].head(10)

players = top10.index

plt.figure(figsize=(10,6))
plt.barh(players,top10.values)
for index, value in enumerate(top10.values):
    plt.text(value, index, str(value))
plt.title('Most Sixes')
plt.xlabel('Sixes')
plt.ylabel('Players')
plt.savefig('Most Sixes By Players.png', dpi=300, bbox_inches='tight')
plt.show()
```



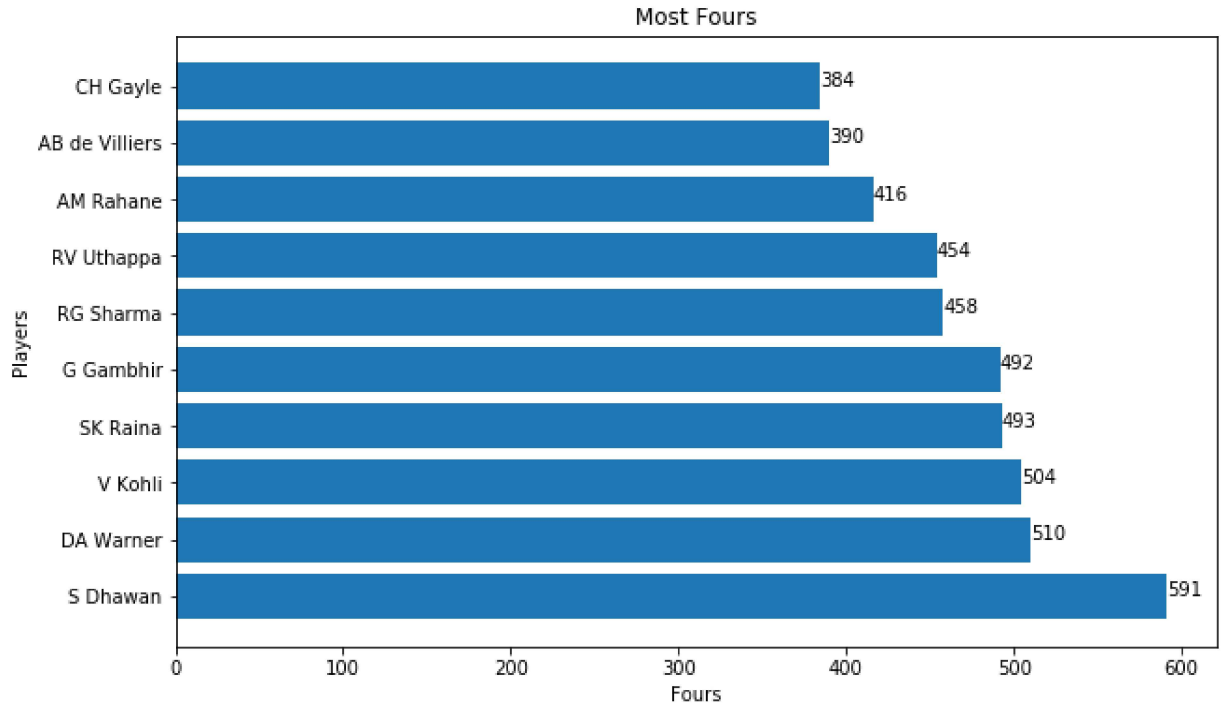
Most 4's By Players

In [42]:
```
df = data[data["batsman_runs"]==4]
results = df.groupby("batsman").count()
```

In [44]:
```
top10 = results.sort_values(by='id',ascending=False,)["id"].head(10)

players = top10.index

plt.figure(figsize=(10,6))
plt.barh(players,top10.values)
for index, value in enumerate(top10.values):
    plt.text(value, index, str(value))
plt.title('Most Fours')
plt.xlabel('Fours')
plt.ylabel('Players')
plt.savefig('Most Fours By Players.png', dpi=300, bbox_inches='tight')
plt.show()
```



Most Runs by Players

In [64]:
```
df = data
results = df.groupby('batsman')['batsman_runs'].agg('sum').reset_index().sort_val
```

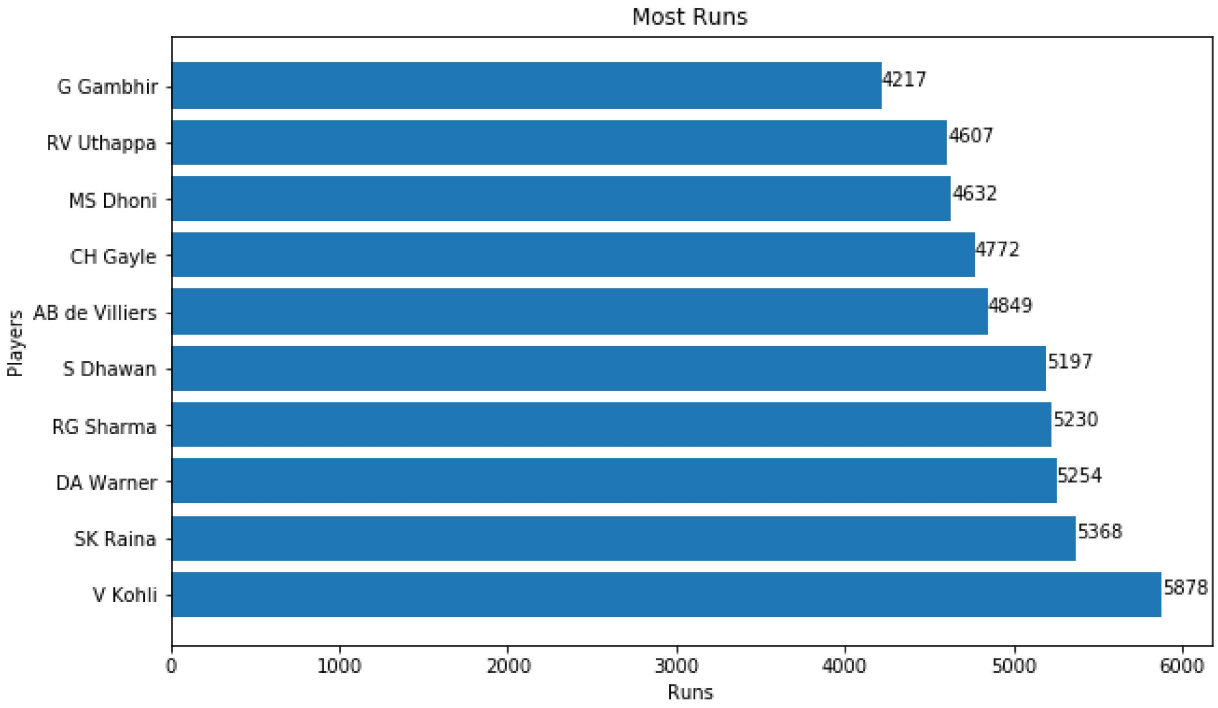
Out[64]:

	batsman	batsman_runs
505	V Kohli	5878
438	SK Raina	5368
116	DA Warner	5254
379	RG Sharma	5230
407	S Dhawan	5197
24	AB de Villiers	4849
96	CH Gayle	4772
301	MS Dhoni	4632
398	RV Uthappa	4607
154	G Gambhir	4217

In [67]:
```
top10 = results

players = top10["batsman"]

plt.figure(figsize=(10,6))
plt.barh(players,top10["batsman_runs"])
for index, value in enumerate(top10["batsman_runs"]):
    plt.text(value, index, str(value))
plt.title('Most Runs')
plt.xlabel('Runs')
plt.ylabel('Players')
plt.savefig('Most Runs By Players.png', dpi=300, bbox_inches='tight')
plt.show()
```



Wickets by type of Dismissal

In [101]:
```
df = data
results = df.groupby("dismissal_kind").count()
results["id"]
```

Out[101]:
```
dismissal_kind
bowled                   1700
caught                   5743
caught and bowled         269
hit wicket                 12
lbw                       571
obstructing the field       2
retired hurt               11
run out                   893
stumped                   294
Name: id, dtype: int64
```

Average Ball taken per boundary

In [83]:
```
(data[data['batsman_runs'].isin([4,6])].count()/data.count())
```

Out[83]:
```
id                 0.159251
inning             0.159251
over               0.159251
ball               0.159251
batsman            0.159251
non_striker        0.159251
bowler             0.159251
batsman_runs       0.159251
extra_runs         0.159251
total_runs         0.159251
non_boundary       0.159251
is_wicket          0.159251
dismissal_kind     0.000211
player_dismissed   0.000211
fielder            0.000000
extras_type        0.013779
batting_team       0.159251
bowling_team       0.159227
dtype: float64
```

0.16 = 1/6 = One boundary in each 6 ball.

Highest Scores

In [104]:
```
roupby(['id','batting_team','bowling_team'])['total_runs'].sum().reset_index().so
```

Out[104]:

	id	batting_team	bowling_team	total_runs
701	598027	Royal Challengers Bangalore	Pune Warriors	263
1117	980987	Royal Challengers Bangalore	Gujarat Lions	248
292	419137	Chennai Super Kings	Rajasthan Royals	246
1355	1136604	Kolkata Knight Riders	Kings XI Punjab	245
2	335983	Chennai Super Kings	Kings XI Punjab	240
1001	829795	Royal Challengers Bangalore	Mumbai Indians	235
472	501260	Kings XI Punjab	Royal Challengers Bangalore	232
1480	1178422	Kolkata Knight Riders	Mumbai Indians	232
398	501223	Delhi Capitals	Kings XI Punjab	231
1409	1175366	Sunrisers Hyderabad	Royal Challengers Bangalore	231

In [ ]:
```
```