VISUALIZATION OF THE FIFA19 DATA WITH DIFFERENT TYPES OF VISUALIZATION AVAILABLE IN SEABORN LIBRARY

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

In [2]:
```
import warnings
warnings.filterwarnings('ignore')
```

In [3]:
```
fifa19=pd.read_csv(r"C:\Users\Admin\Desktop\class\resume project\Seaborn - SPORT
```

In [4]:
```
fifa19.head()
```

Out[4]:

	Unnamed: 0	ID	Name	Age	Photo	Natio
0	0	158023	L. Messi	31	https://cdn.sofifa.org/players/4/19/158023.png	Arge
1	1	20801	Cristiano Ronaldo	33	https://cdn.sofifa.org/players/4/19/20801.png	Po
2	2	190871	Neymar Jr	26	https://cdn.sofifa.org/players/4/19/190871.png	
3	3	193080	De Gea	27	https://cdn.sofifa.org/players/4/19/193080.png	
4	4	192985	K. De Bruyne	27	https://cdn.sofifa.org/players/4/19/192985.png	Be

5 rows × 89 columns

In [5]:
```
fifa19.shape
```

Out[5]:
```
(18207, 89)
```

In [6]:
```
fifa19.describe()
```

Out[6]:

	Unnamed: 0	ID	Age	Overall	Potential	Sp
count	18207.000000	18207.000000	18207.000000	18207.000000	18207.000000	18207.00
mean	9103.000000	214298.338606	25.122206	66.238699	71.307299	1597.80
std	5256.052511	29965.244204	4.669943	6.908930	6.136496	272.58
min	0.000000	16.000000	16.000000	46.000000	48.000000	731.00
25%	4551.500000	200315.500000	21.000000	62.000000	67.000000	1457.00
50%	9103.000000	221759.000000	25.000000	66.000000	71.000000	1635.00
75%	13654.500000	236529.500000	28.000000	71.000000	75.000000	1787.00
max	18206.000000	246620.000000	45.000000	94.000000	95.000000	2346.00

8 rows × 44 columns

In [7]:
```
fifa19.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 18207 entries, 0 to 18206
Data columns (total 89 columns):
 #   Column                    Non-Null Count  Dtype  
---  ------                    --------------  -----  
 0   Unnamed: 0                18207 non-null  int64  
 1   ID                        18207 non-null  int64  
 2   Name                      18207 non-null  object 
 3   Age                       18207 non-null  int64  
 4   Photo                     18207 non-null  object 
 5   Nationality               18207 non-null  object 
 6   Flag                      18207 non-null  object 
 7   Overall                   18207 non-null  int64  
 8   Potential                 18207 non-null  int64  
 9   Club                      17966 non-null  object 
 10  Club Logo                 18207 non-null  object 
 11  Value                     18207 non-null  object 
 12  Wage                      18207 non-null  object 
 13  Special                   18207 non-null  int64  
 14  Preferred Foot            18159 non-null  object 
 15  International Reputation  18159 non-null  float64
 16  Weak Foot                 18159 non-null  float64
 17  Skill Moves               18159 non-null  float64
 18  Work Rate                 18159 non-null  object 
 19  Body Type                 18159 non-null  object 
 20  Real Face                 18159 non-null  object 
 21  Position                  18147 non-null  object 
 22  Jersey Number             18147 non-null  float64
 23  Joined                    16654 non-null  object 
 24  Loaned From               1264 non-null   object 
 25  Contract Valid Until      17918 non-null  object 
 26  Height                    18159 non-null  object 
 27  Weight                    18159 non-null  object 
 28  LS                        16122 non-null  object 
 29  ST                        16122 non-null  object 
 30  RS                        16122 non-null  object 
 31  LW                        16122 non-null  object 
 32  LF                        16122 non-null  object 
 33  CF                        16122 non-null  object 
 34  RF                        16122 non-null  object 
 35  RW                        16122 non-null  object 
 36  LAM                       16122 non-null  object 
 37  CAM                       16122 non-null  object 
 38  RAM                       16122 non-null  object 
 39  LM                        16122 non-null  object 
 40  LCM                       16122 non-null  object 
 41  CM                        16122 non-null  object 
 42  RCM                       16122 non-null  object 
 43  RM                        16122 non-null  object 
 44  LWB                       16122 non-null  object 
 45  LDM                       16122 non-null  object 
 46  CDM                       16122 non-null  object 
 47  RDM                       16122 non-null  object 
 48  RWB                       16122 non-null  object 
 49  LB                        16122 non-null  object 
 50  LCB                       16122 non-null  object 
 51  CB                        16122 non-null  object 
 52  RCB                       16122 non-null  object 
 53  RB                        16122 non-null  object 
 54  Crossing                  18159 non-null  float64
```

```
 55  Finishing                 18159 non-null  float64
 56  HeadingAccuracy           18159 non-null  float64
 57  ShortPassing              18159 non-null  float64
 58  Volleys                   18159 non-null  float64
 59  Dribbling                 18159 non-null  float64
 60  Curve                     18159 non-null  float64
 61  FKAccuracy                18159 non-null  float64
 62  LongPassing               18159 non-null  float64
 63  BallControl               18159 non-null  float64
 64  Acceleration              18159 non-null  float64
 65  SprintSpeed               18159 non-null  float64
 66  Agility                   18159 non-null  float64
 67  Reactions                 18159 non-null  float64
 68  Balance                   18159 non-null  float64
 69  ShotPower                 18159 non-null  float64
 70  Jumping                   18159 non-null  float64
 71  Stamina                   18159 non-null  float64
 72  Strength                  18159 non-null  float64
 73  LongShots                 18159 non-null  float64
 74  Aggression                18159 non-null  float64
 75  Interceptions             18159 non-null  float64
 76  Positioning               18159 non-null  float64
 77  Vision                    18159 non-null  float64
 78  Penalties                 18159 non-null  float64
 79  Composure                 18159 non-null  float64
 80  Marking                   18159 non-null  float64
 81  StandingTackle            18159 non-null  float64
 82  SlidingTackle             18159 non-null  float64
 83  GKDiving                  18159 non-null  float64
 84  GKHandling                18159 non-null  float64
 85  GKKicking                 18159 non-null  float64
 86  GKPositioning             18159 non-null  float64
 87  GKReflexes                18159 non-null  float64
 88  Release Clause            16643 non-null  object
dtypes: float64(38), int64(6), object(45)
memory usage: 12.4+ MB
```

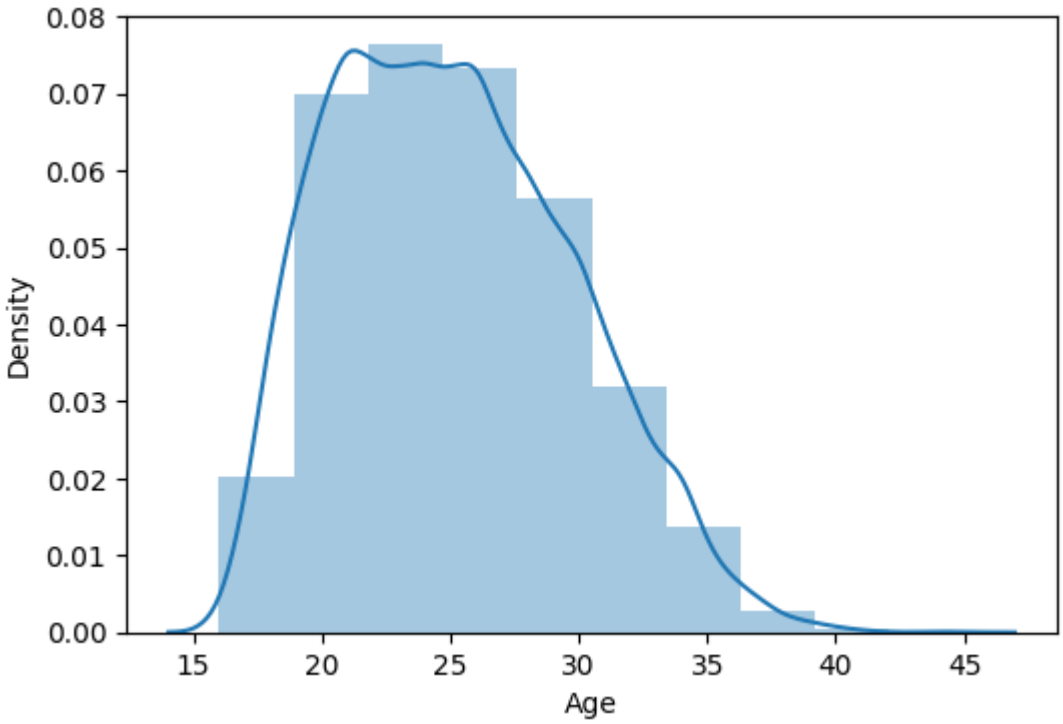
In [8]:
```
fifa19.columns
```

Out[8]:
```
Index(['Unnamed: 0', 'ID', 'Name', 'Age', 'Photo', 'Nationality', 'Flag',
       'Overall', 'Potential', 'Club', 'Club Logo', 'Value', 'Wage', 'Special',
       'Preferred Foot', 'International Reputation', 'Weak Foot',
       'Skill Moves', 'Work Rate', 'Body Type', 'Real Face', 'Position',
       'Jersey Number', 'Joined', 'Loaned From', 'Contract Valid Until',
       'Height', 'Weight', 'LS', 'ST', 'RS', 'LW', 'LF', 'CF', 'RF', 'RW',
       'LAM', 'CAM', 'RAM', 'LM', 'LCM', 'CM', 'RCM', 'RM', 'LWB', 'LDM',
       'CDM', 'RDM', 'RWB', 'LB', 'LCB', 'CB', 'RCB', 'RB', 'Crossing',
       'Finishing', 'HeadingAccuracy', 'ShortPassing', 'Volleys', 'Dribbling',
       'Curve', 'FKAccuracy', 'LongPassing', 'BallControl', 'Acceleration',
       'SprintSpeed', 'Agility', 'Reactions', 'Balance', 'ShotPower',
       'Jumping', 'Stamina', 'Strength', 'LongShots', 'Aggression',
       'Interceptions', 'Positioning', 'Vision', 'Penalties', 'Composure',
       'Marking', 'StandingTackle', 'SlidingTackle', 'GKDiving', 'GKHandling',
       'GKKicking', 'GKPositioning', 'GKReflexes', 'Release Clause'],
      dtype='object')
```

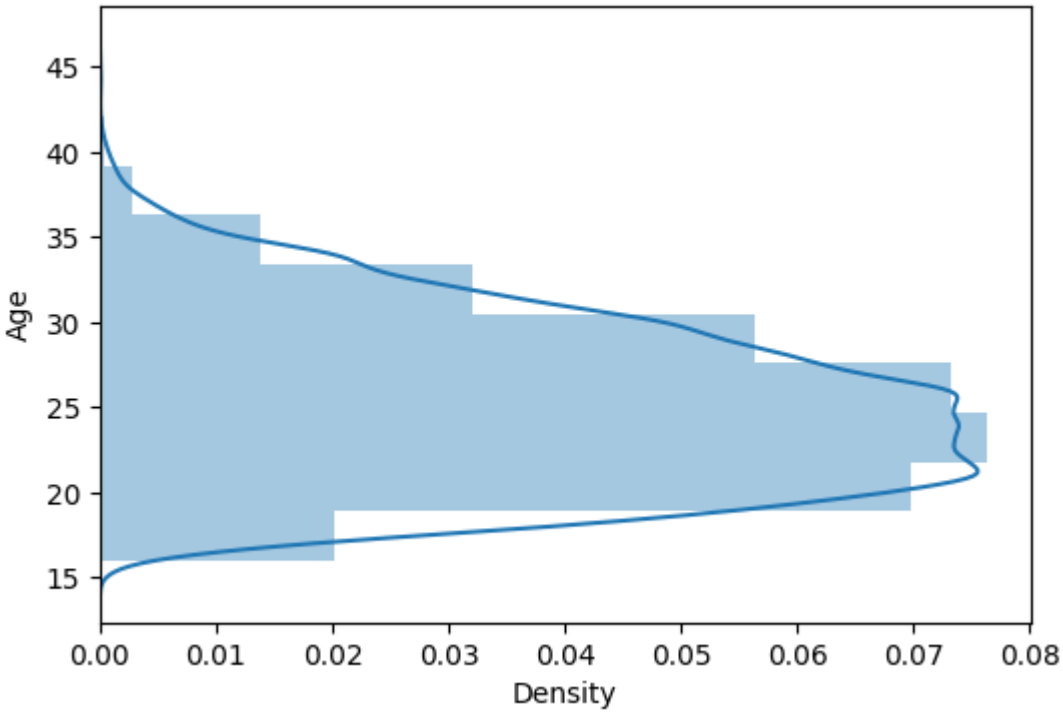
DISTPLOT

In [9]:
```
plt.subplots(figsize=(6,4))
x=fifa19['Age']
```

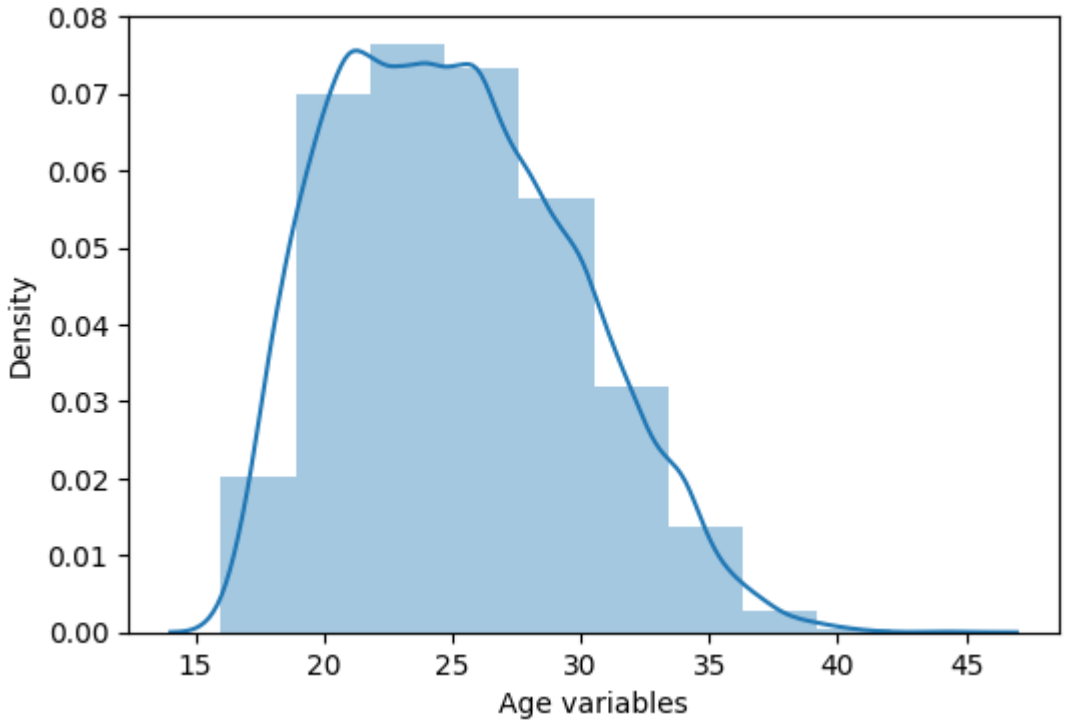
```
ax=sns.distplot(x,bins=10)
```



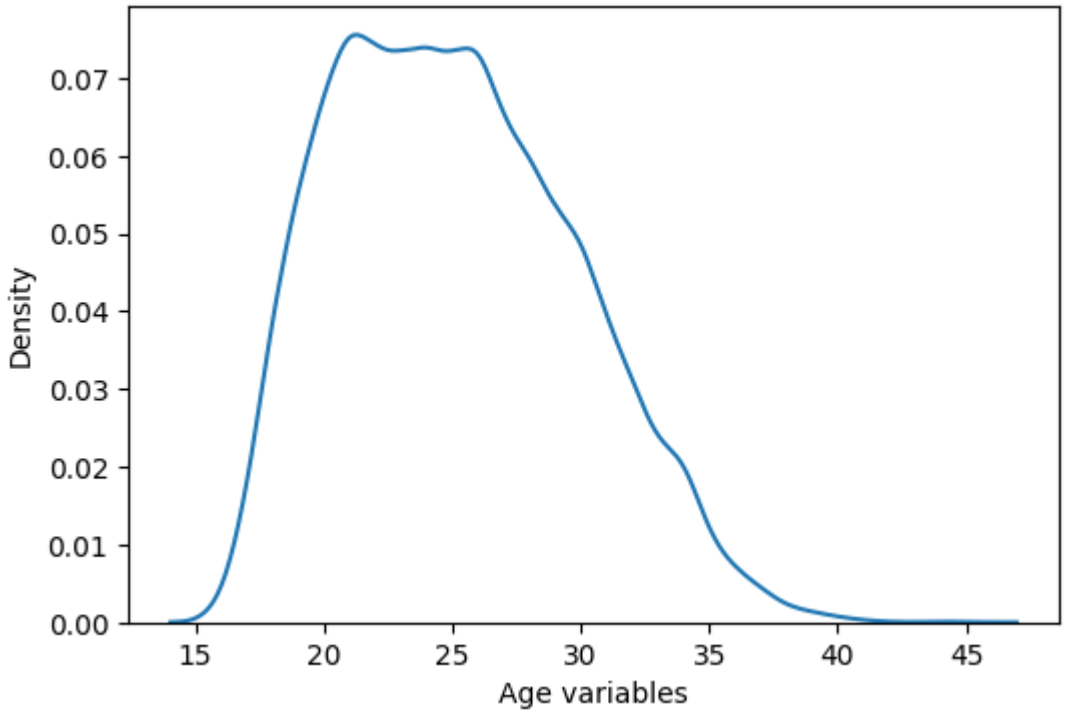
In [10]:
```
plt.subplots(figsize=(6,4))
x=fifa19['Age']
ax=sns.distplot(x,vertical=True,bins=10)
```



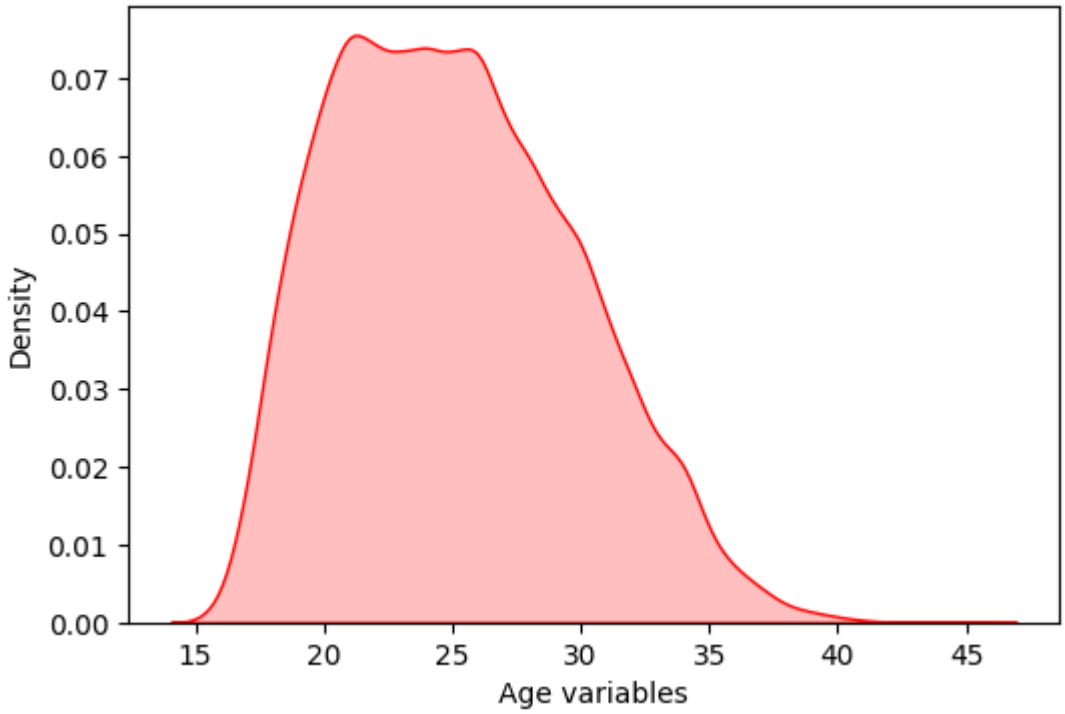
In [11]:
```
plt.subplots(figsize=(6,4))
x=fifa19['Age']
x=pd.Series(x,name='Age variables')
ax=sns.distplot(x,bins=10)
```



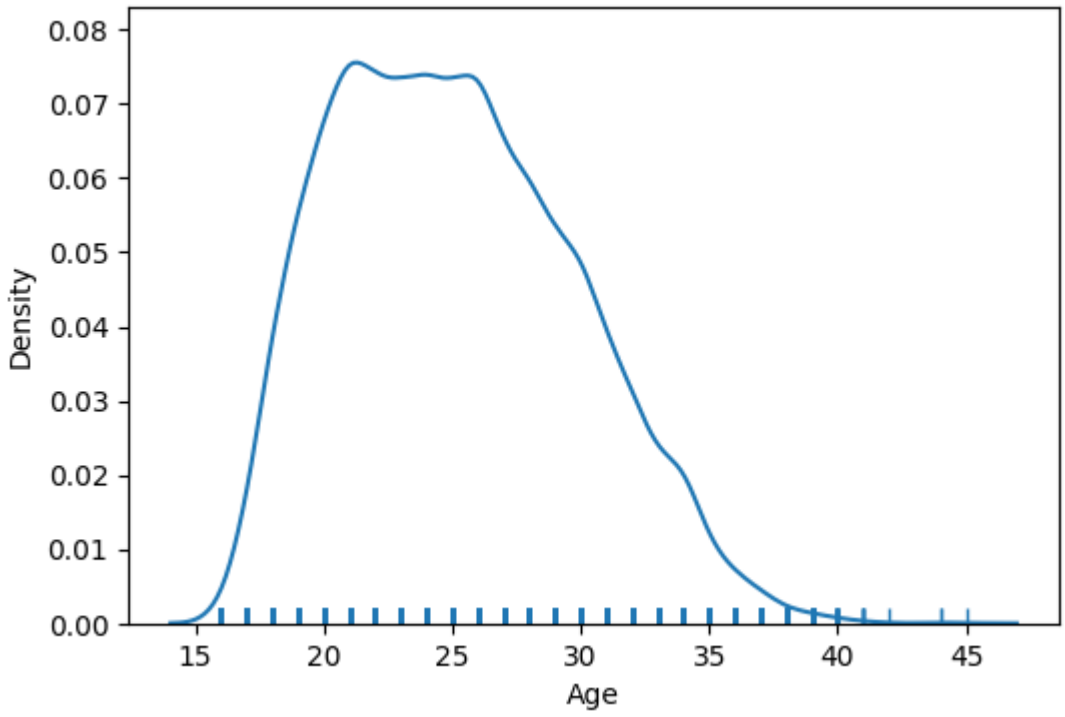
In [12]:
```
plt.subplots(figsize=(6,4))
x=fifa19['Age']
x=pd.Series(x,name='Age variables')
ax=sns.kdeplot(x)
```



In [13]:
```
plt.subplots(figsize=(6,4))
x=fifa19['Age']
x=pd.Series(x,name='Age variables')
ax=sns.kdeplot(x,shade=True,color='r')
```



In [14]:
```
plt.subplots(figsize=(6,4))
x=fifa19['Age']
ax=sns.distplot(x,hist=False,rug=True,bins=10)
```



In [15]:
```
fifa19['Preferred Foot'].nunique()
```

Out[15]:
```
2
```

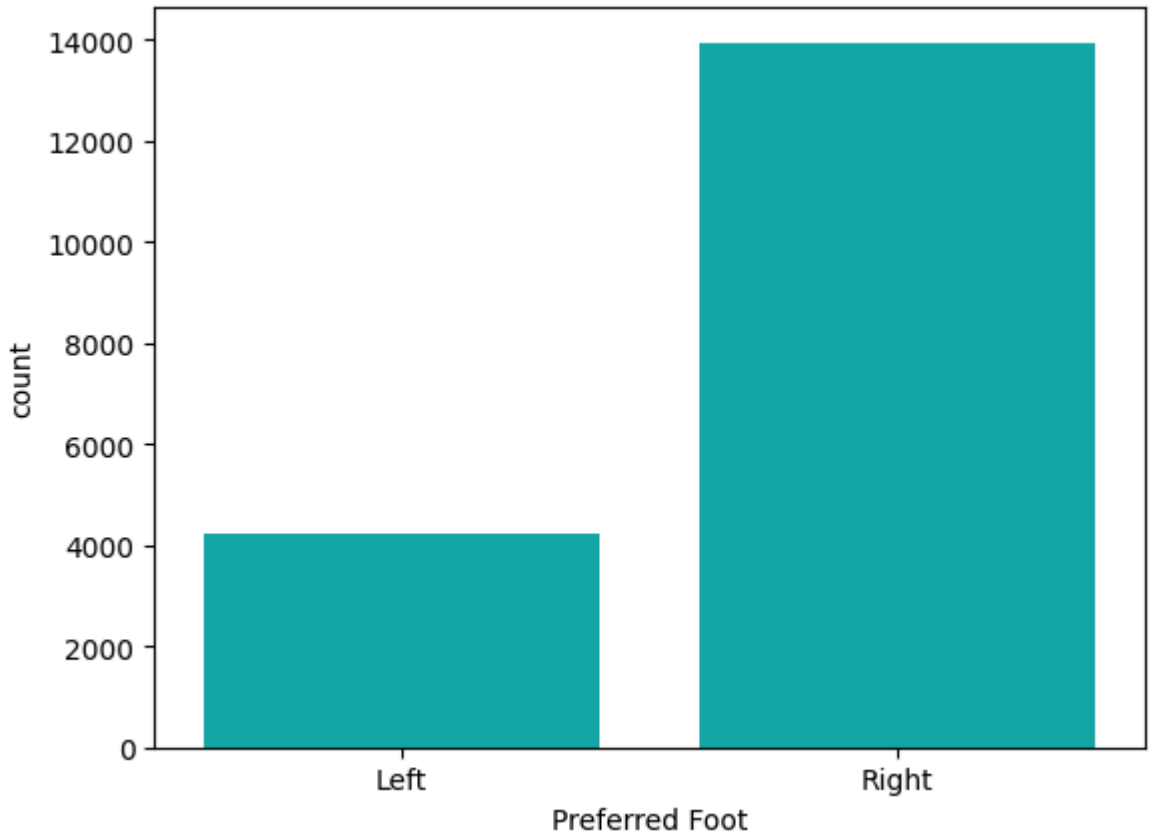
In [16]:
```
fifa19['Preferred Foot'].value_counts()
```

Out[16]:
```
Preferred Foot
Right    13948
Left      4211
Name: count, dtype: int64
```

COUNTPLOT

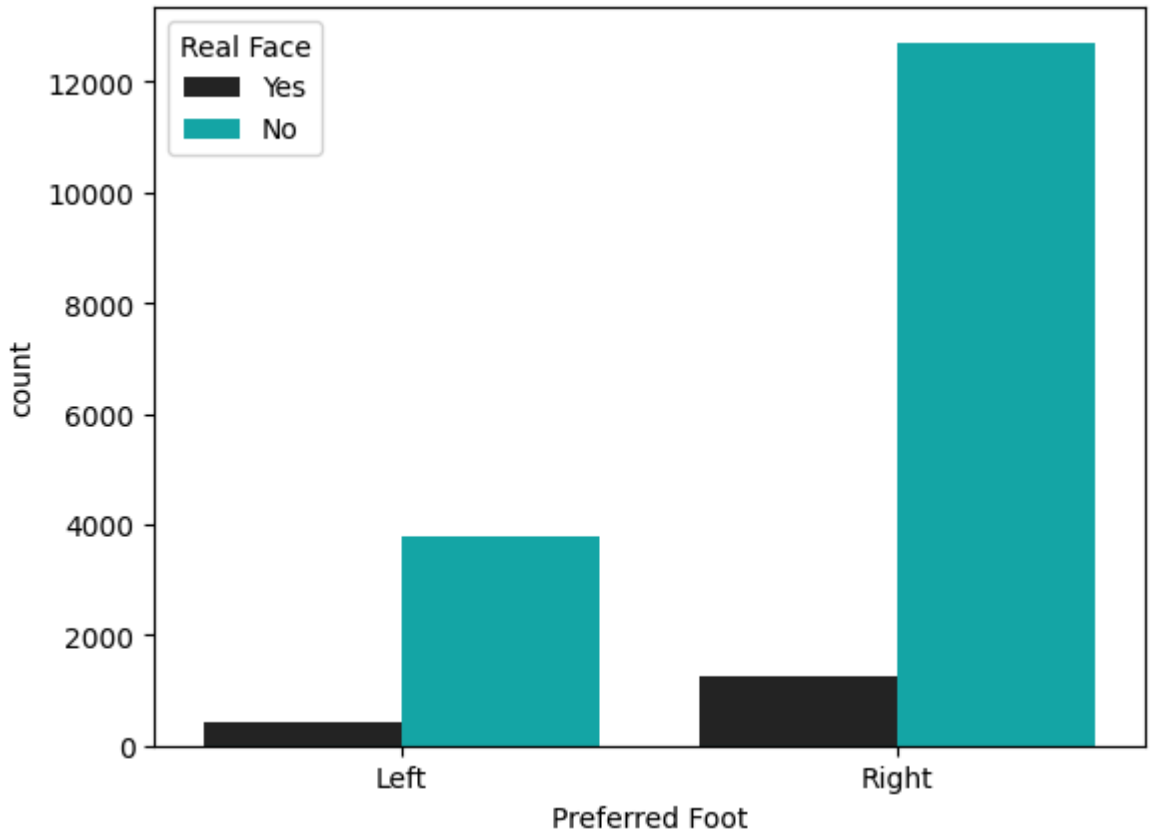
In [17]:
```
sns.countplot(x='Preferred Foot',color='c',data=fifa19)
```

Out[17]:
```
<Axes: xlabel='Preferred Foot', ylabel='count'>
```



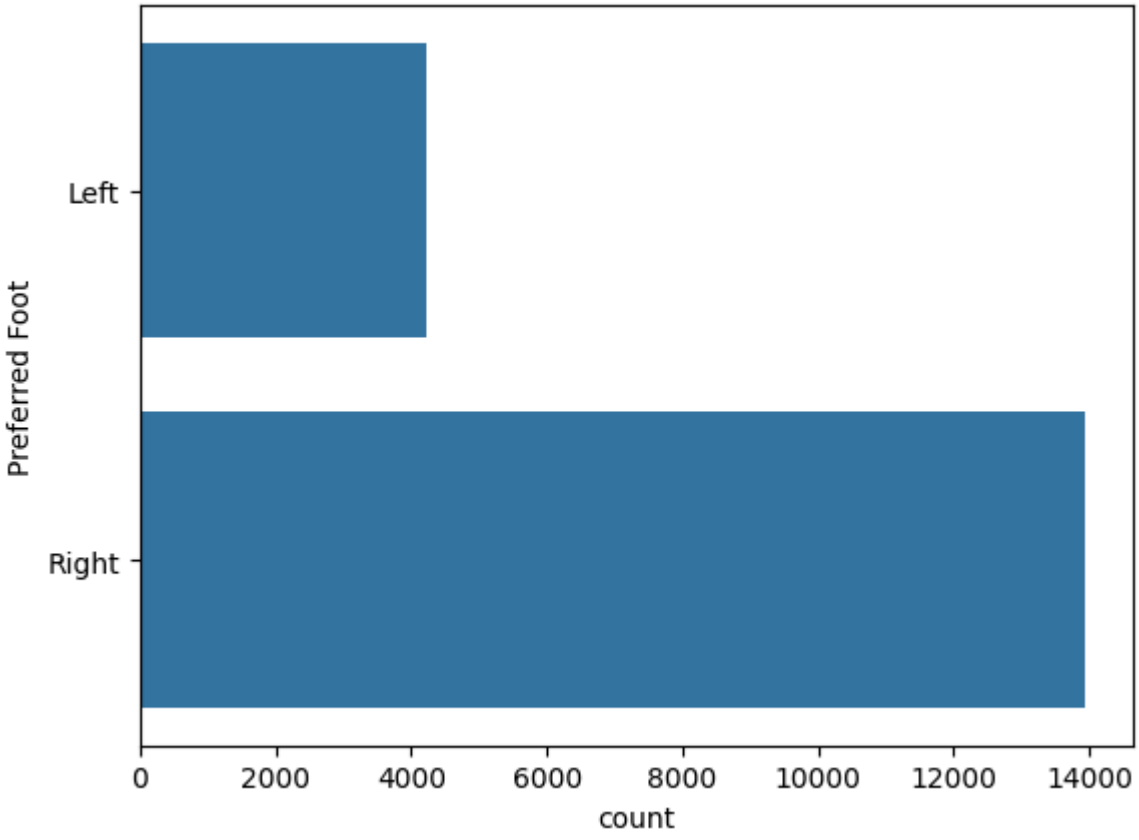
In [18]:
```
sns.countplot(x='Preferred Foot',hue='Real Face',color='c',data=fifa19)
```

Out[18]:
```
<Axes: xlabel='Preferred Foot', ylabel='count'>
```



In [19]:
```
sns.countplot(y='Preferred Foot',data=fifa19)
```

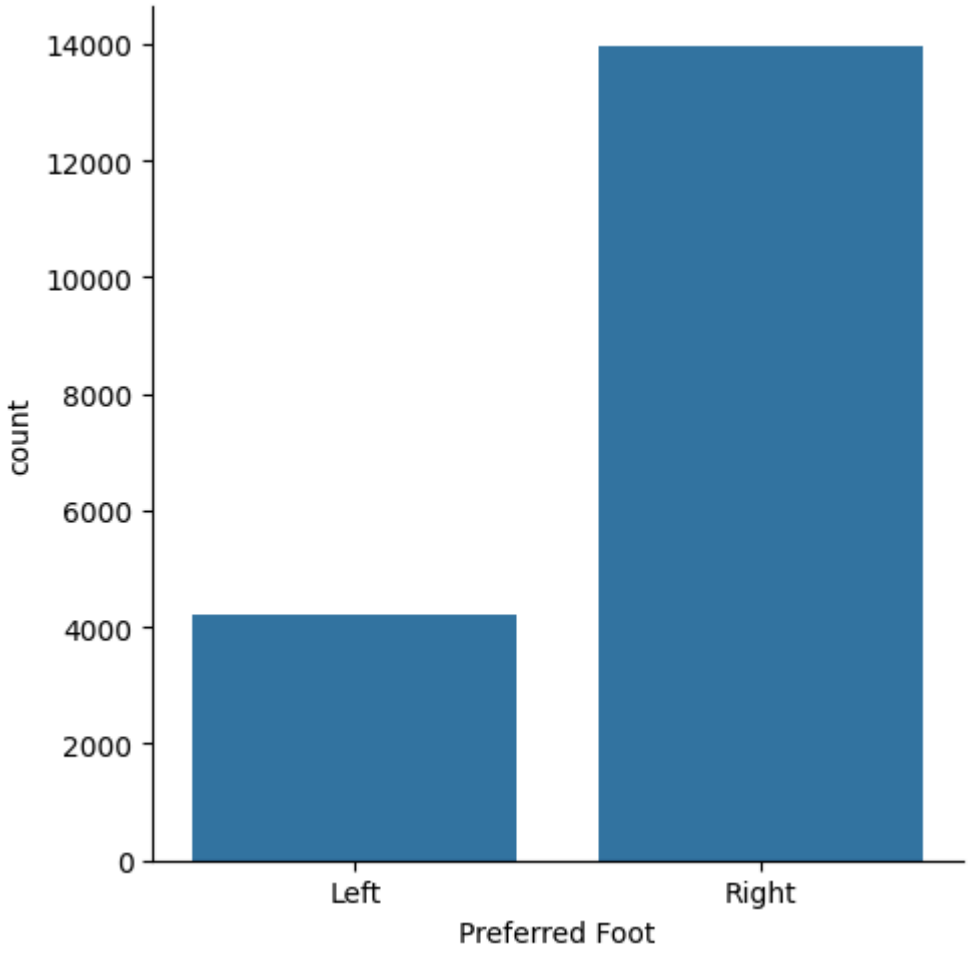
Out[19]:
```
<Axes: xlabel='count', ylabel='Preferred Foot'>
```



CATPLOT

In [20]:
```
sns.catplot(x='Preferred Foot',kind='count',data=fifa19)
```

Out[20]: <seaborn.axisgrid.FacetGrid at 0x210386a8ce0>



STRIPPLOT

In [21]:
```
fifa19['International Reputation'].nunique()
```

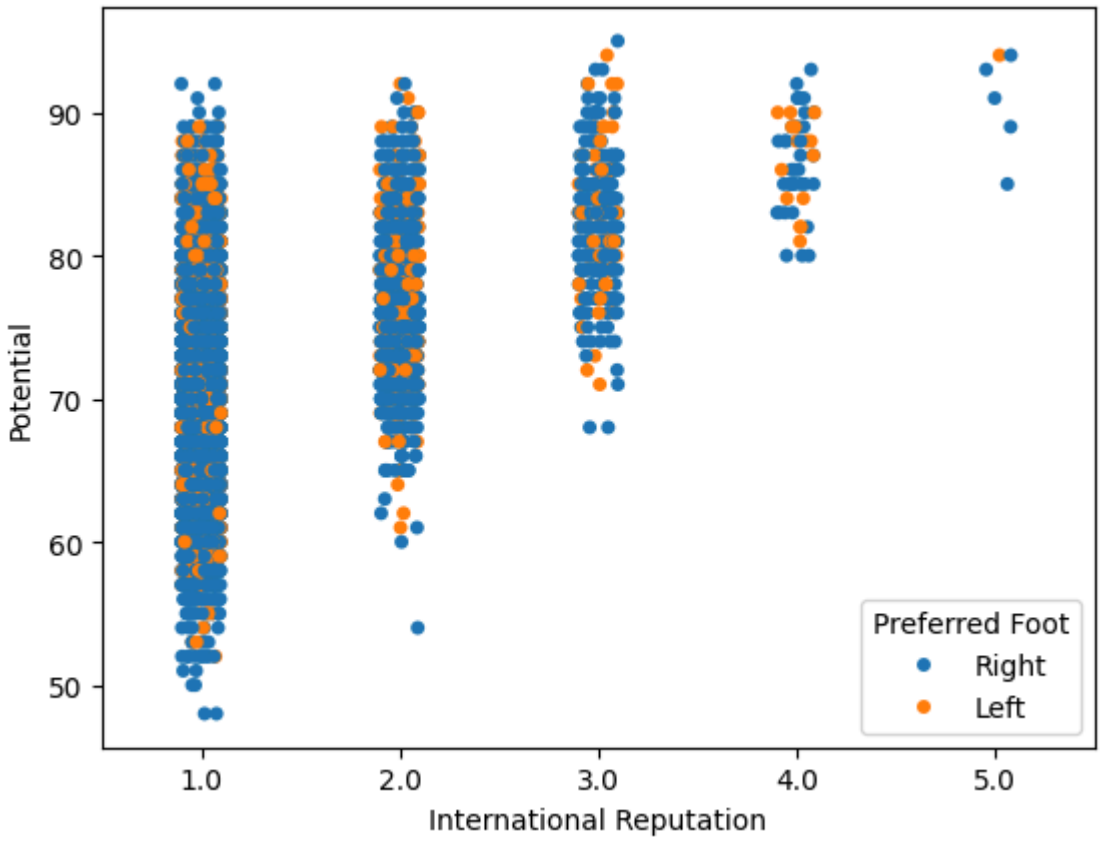
Out[21]: 5

In [22]:
```
fifa19['International Reputation'].value_counts()
```

Out[22]:
```
International Reputation
1.0    16532
2.0     1261
3.0      309
4.0       51
5.0        6
Name: count, dtype: int64
```

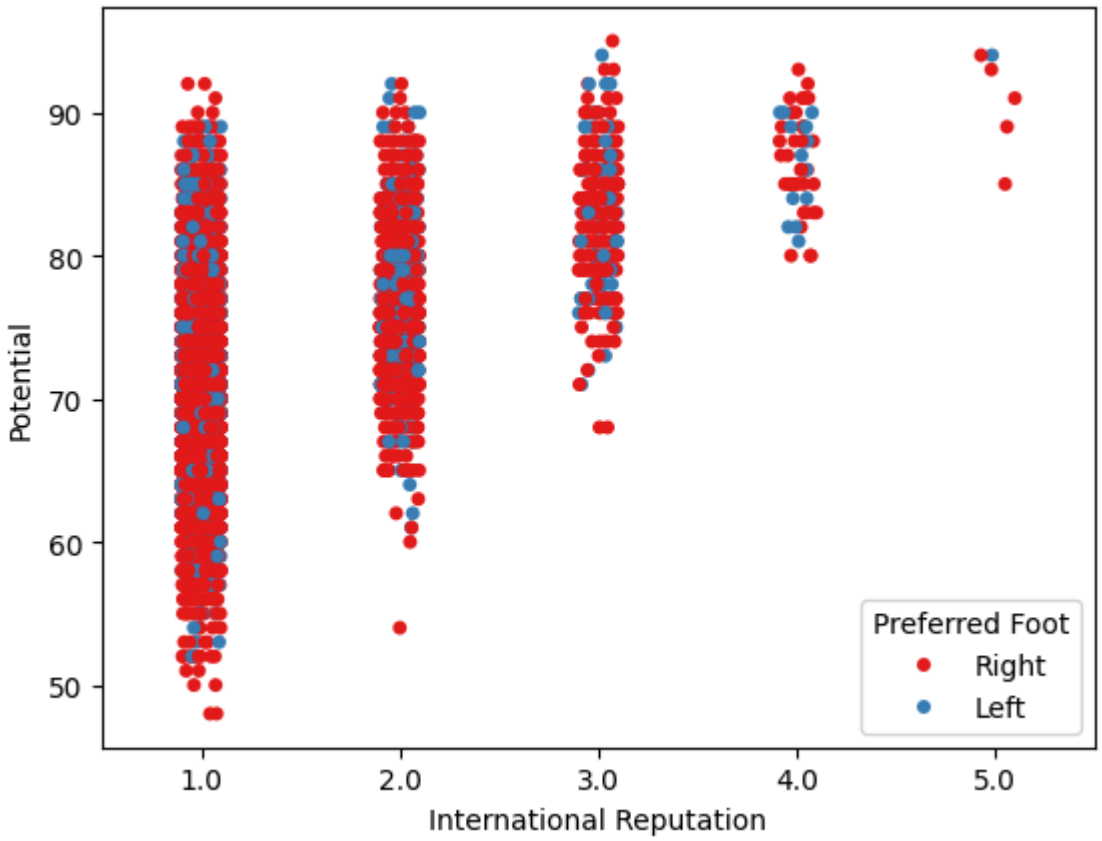
In [23]:
```
sns.stripplot(x='International Reputation',y='Potential',hue='Preferred Foot',da
```

Out[23]: <Axes: xlabel='International Reputation', ylabel='Potential'>



In [24]:
```
sns.stripplot(x='International Reputation',y='Potential',hue='Preferred Foot',pa
```

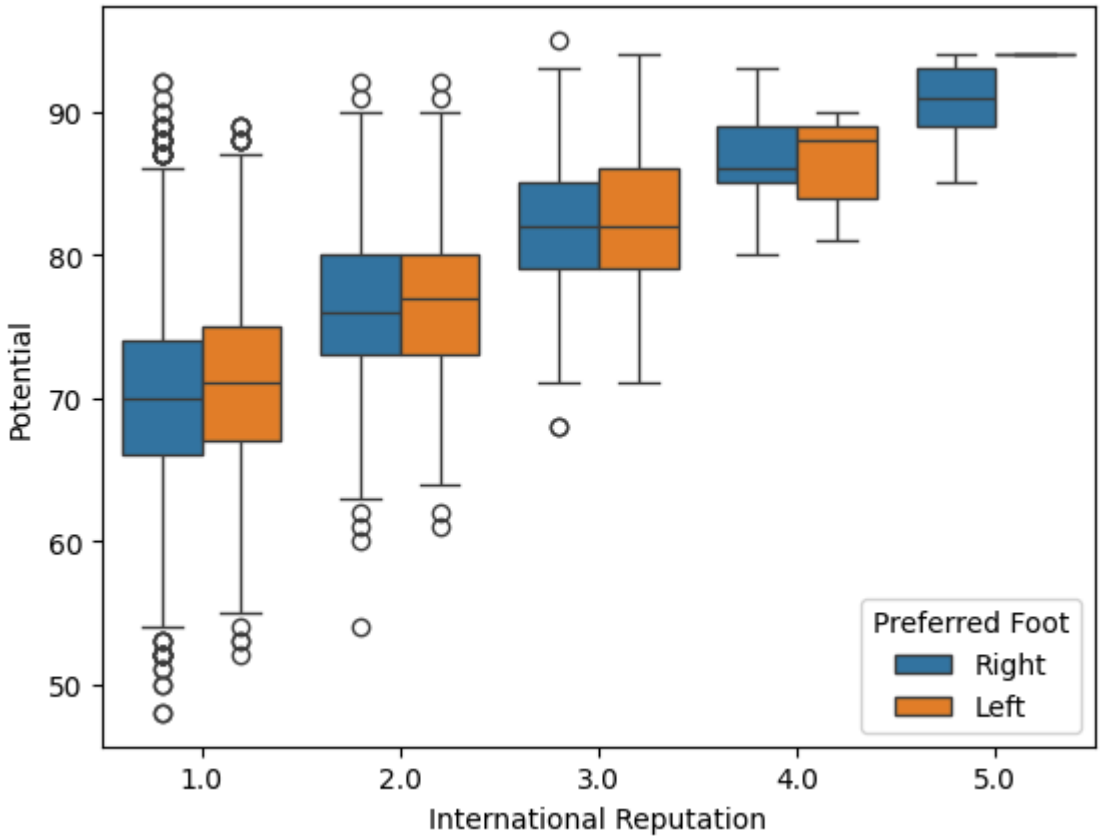
Out[24]: <Axes: xlabel='International Reputation', ylabel='Potential'>



BOXPLOT

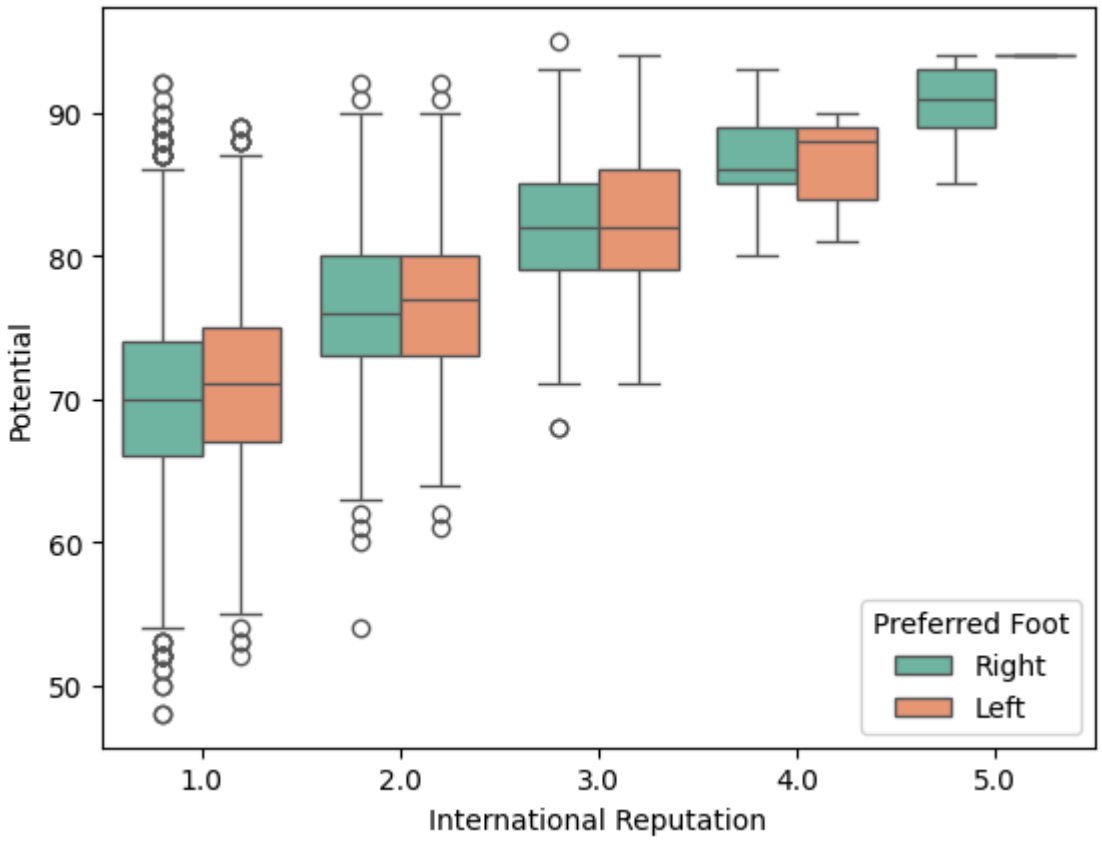
In [25]:
```
sns.boxplot(x='International Reputation',y='Potential',hue='Preferred Foot',data
```

Out[25]: <Axes: xlabel='International Reputation', ylabel='Potential'>



In [26]:
```
sns.boxplot(x='International Reputation',y='Potential',hue='Preferred Foot',pale
```

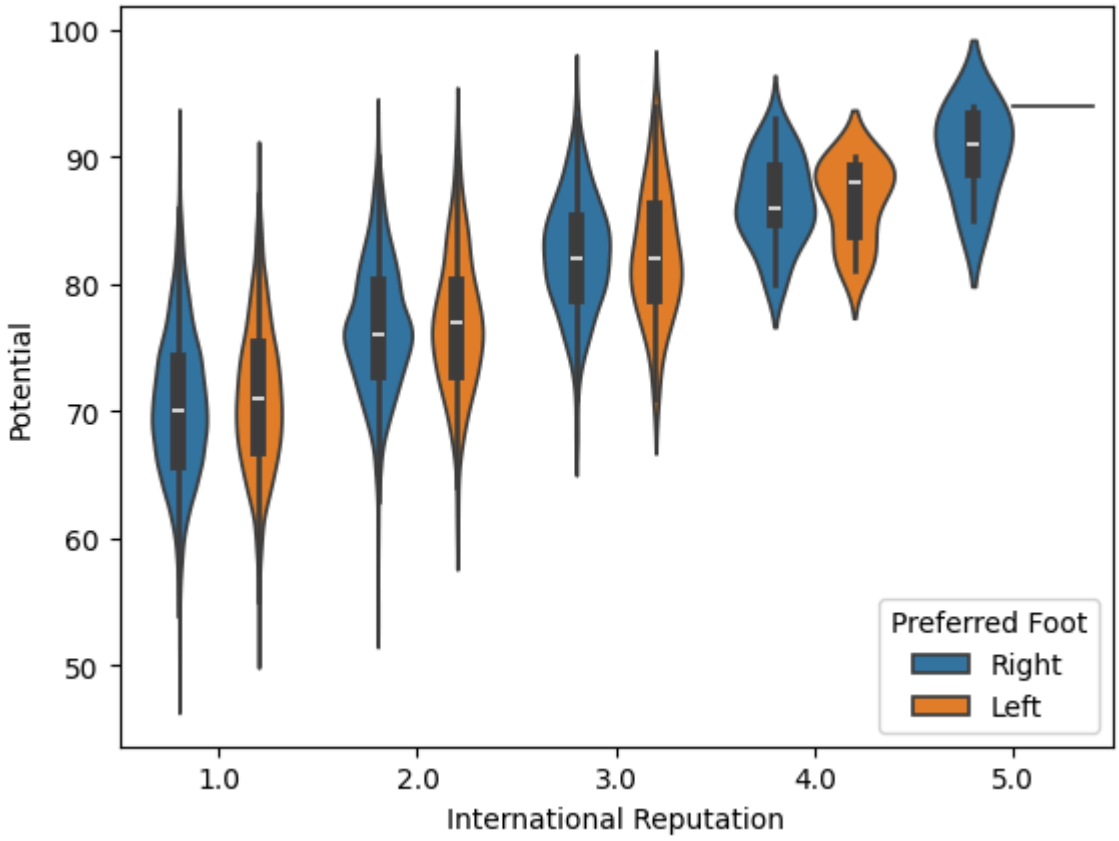
Out[26]: <Axes: xlabel='International Reputation', ylabel='Potential'>



VIOLINPLOT

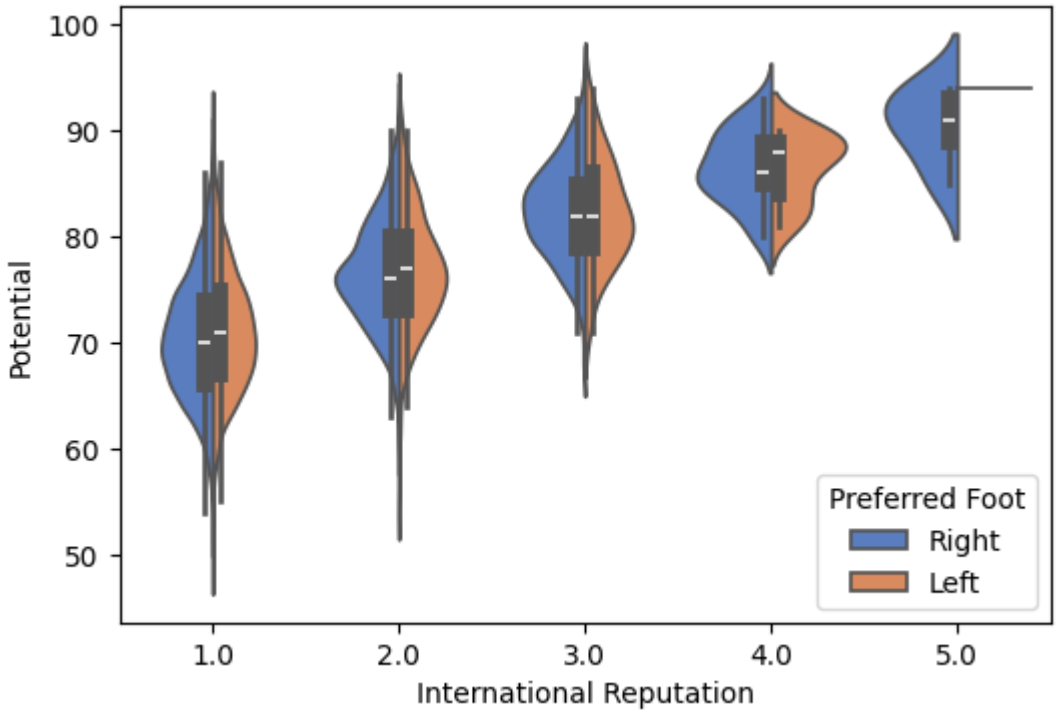
In [27]:
```
sns.violinplot(x='International Reputation',y='Potential',hue='Preferred Foot',d
```

Out[27]: <Axes: xlabel='International Reputation', ylabel='Potential'>



In [28]:
```
plt.subplots(figsize=(6,4))
sns.violinplot(x='International Reputation',y='Potential',hue='Preferred Foot',s
```

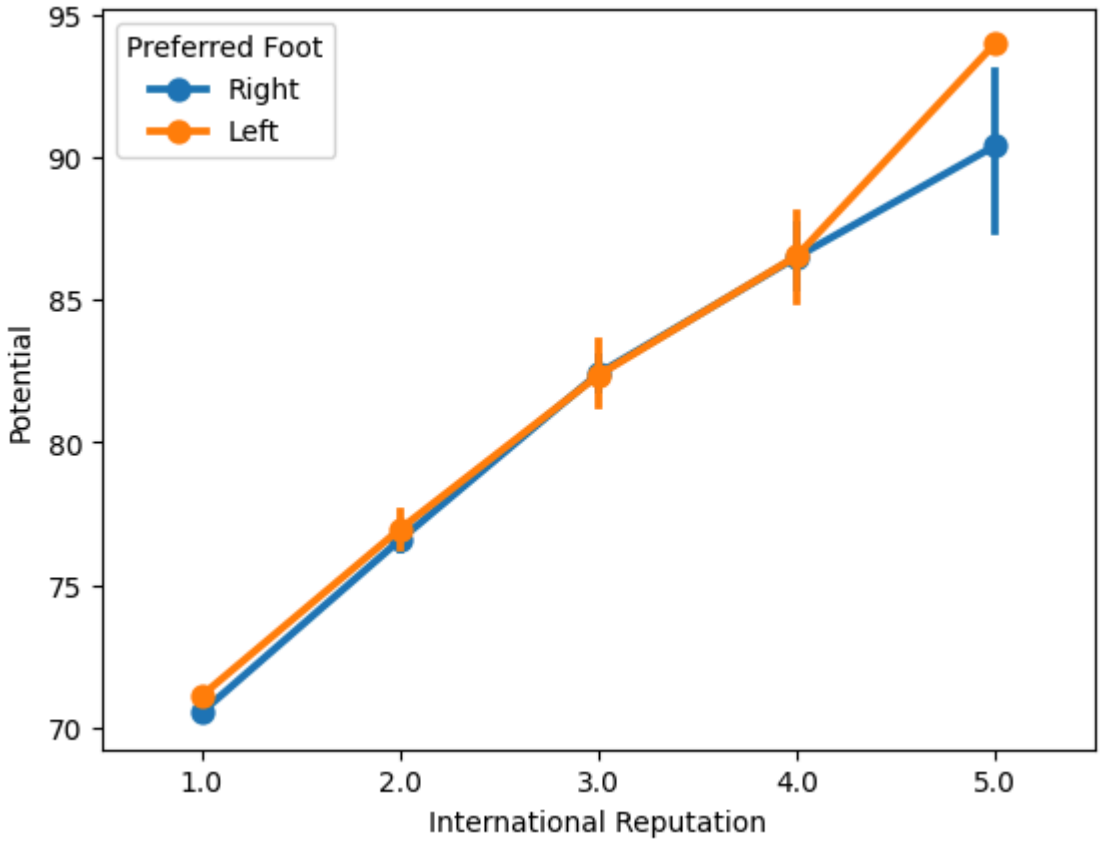
Out[28]: <Axes: xlabel='International Reputation', ylabel='Potential'>



POINTPLOT

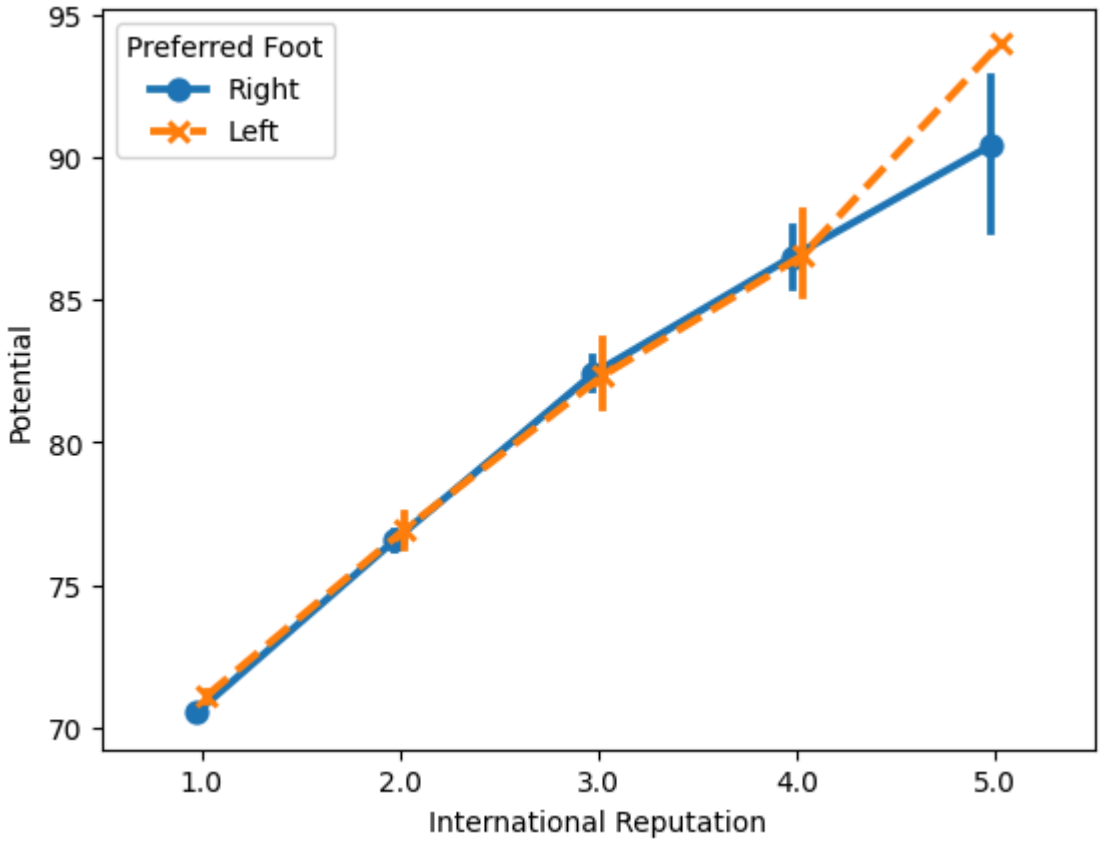
In [29]:
```
sns.pointplot(x='International Reputation',y='Potential',hue='Preferred Foot',da
```

Out[29]:
```
<Axes: xlabel='International Reputation', ylabel='Potential'>
```



In [30]:
```
sns.pointplot(x='International Reputation',y='Potential',hue='Preferred Foot',da
```

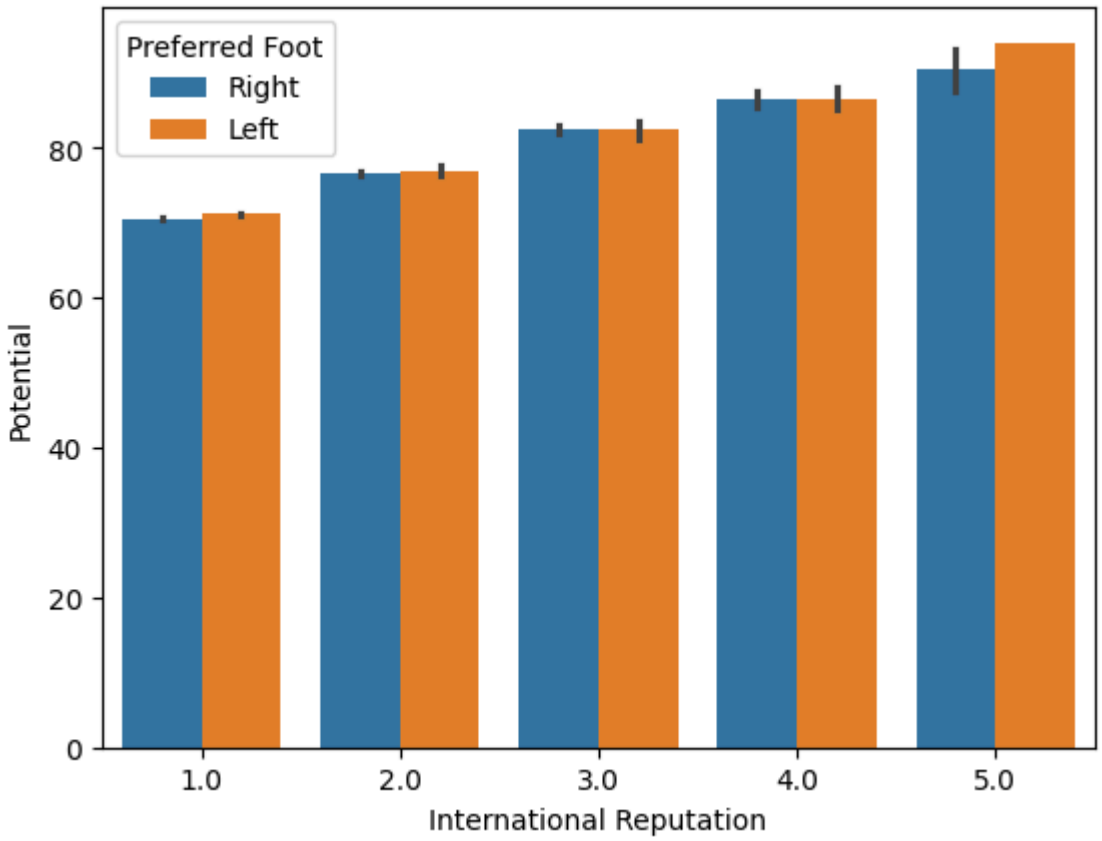
Out[30]:
```
<Axes: xlabel='International Reputation', ylabel='Potential'>
```



BARPLOT

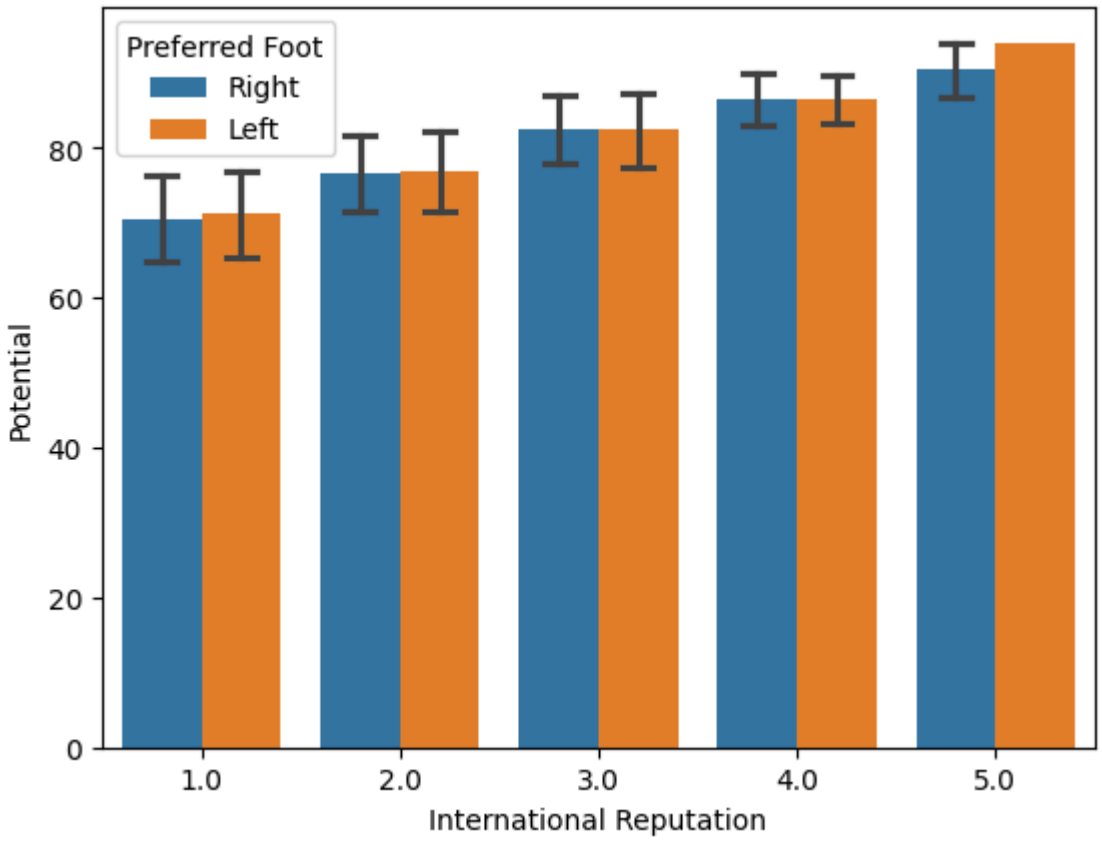
In [31]:
```
sns.barplot(x='International Reputation',y='Potential',hue='Preferred Foot',data
```

Out[31]:
```
<Axes: xlabel='International Reputation', ylabel='Potential'>
```



In [32]:
```
sns.barplot(x='International Reputation',y='Potential',hue='Preferred Foot',data
```

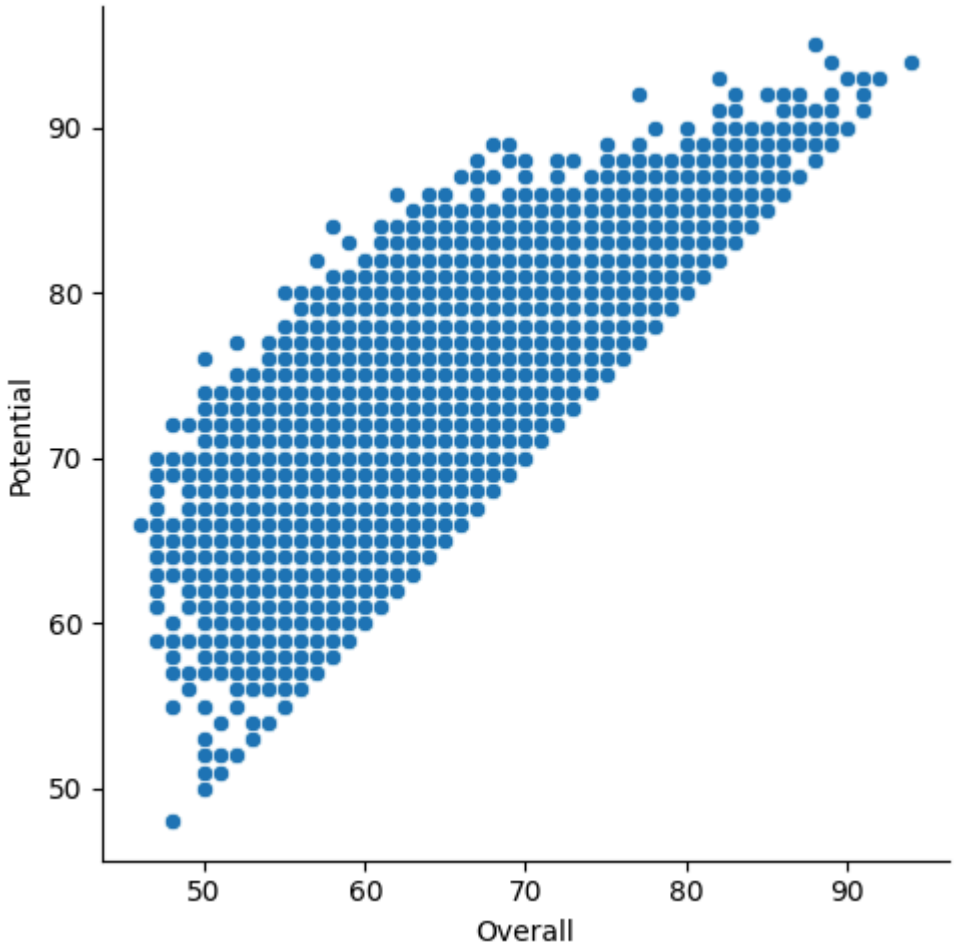
Out[32]:
```
<Axes: xlabel='International Reputation', ylabel='Potential'>
```



RELPLOT

In [33]:
```
sns.relplot(x='Overall', y='Potential',data=fifa19)
```

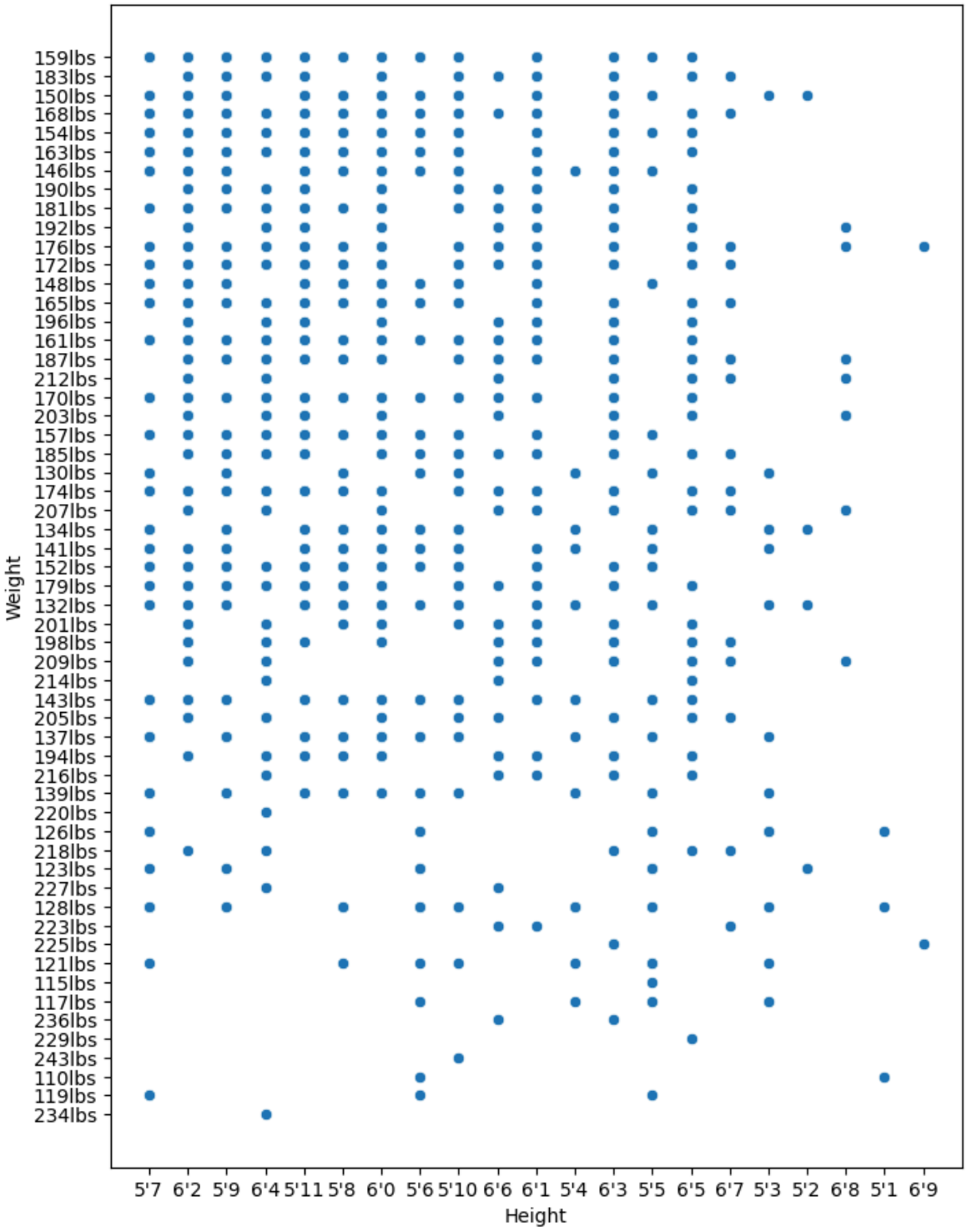
Out[33]:
```
<seaborn.axisgrid.FacetGrid at 0x2103d5afef0>
```



SCATTERPLOT

In [34]:
```
plt.subplots(figsize=(8,11))
sns.scatterplot(x='Height',y='Weight',data=fifa19)
```

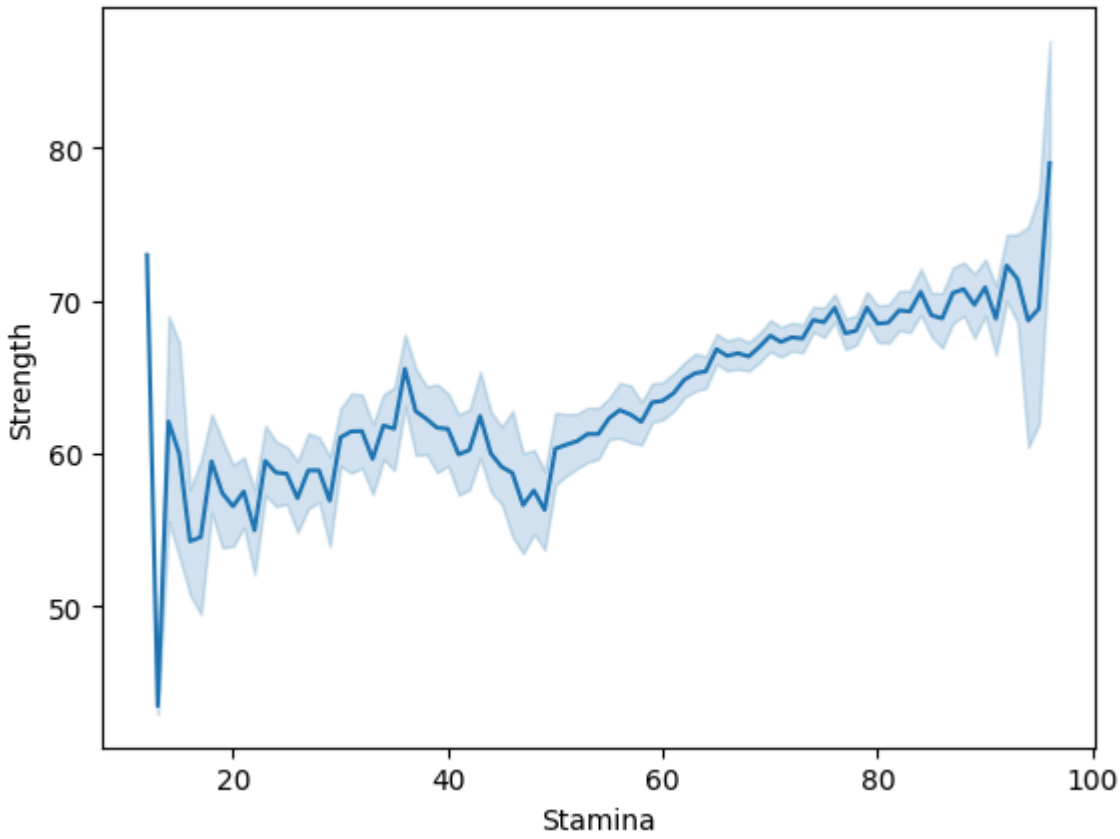
Out[34]:
```
<Axes: xlabel='Height', ylabel='Weight'>
```



LINEPLOT

In [35]:
```
sns.lineplot(x='Stamina',y='Strength',data=fifa19)
```

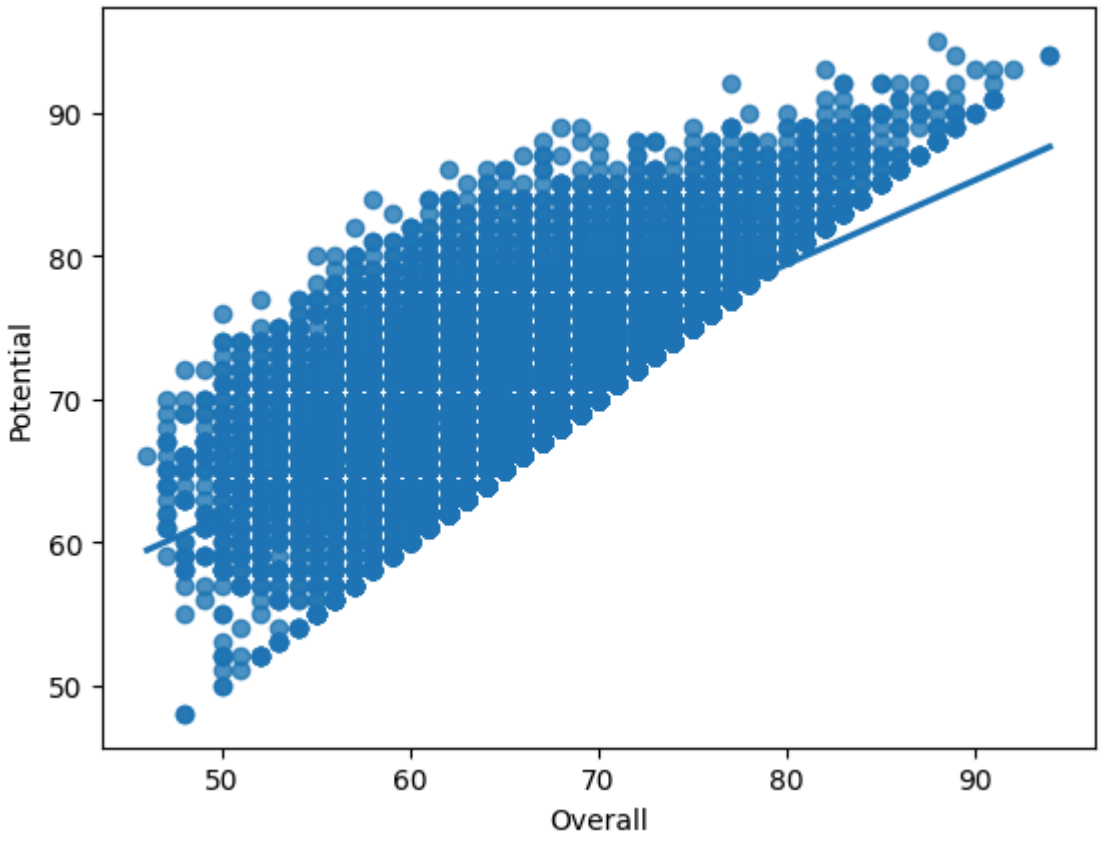
Out[35]: <Axes: xlabel='Stamina', ylabel='Strength'>



REGPLOT

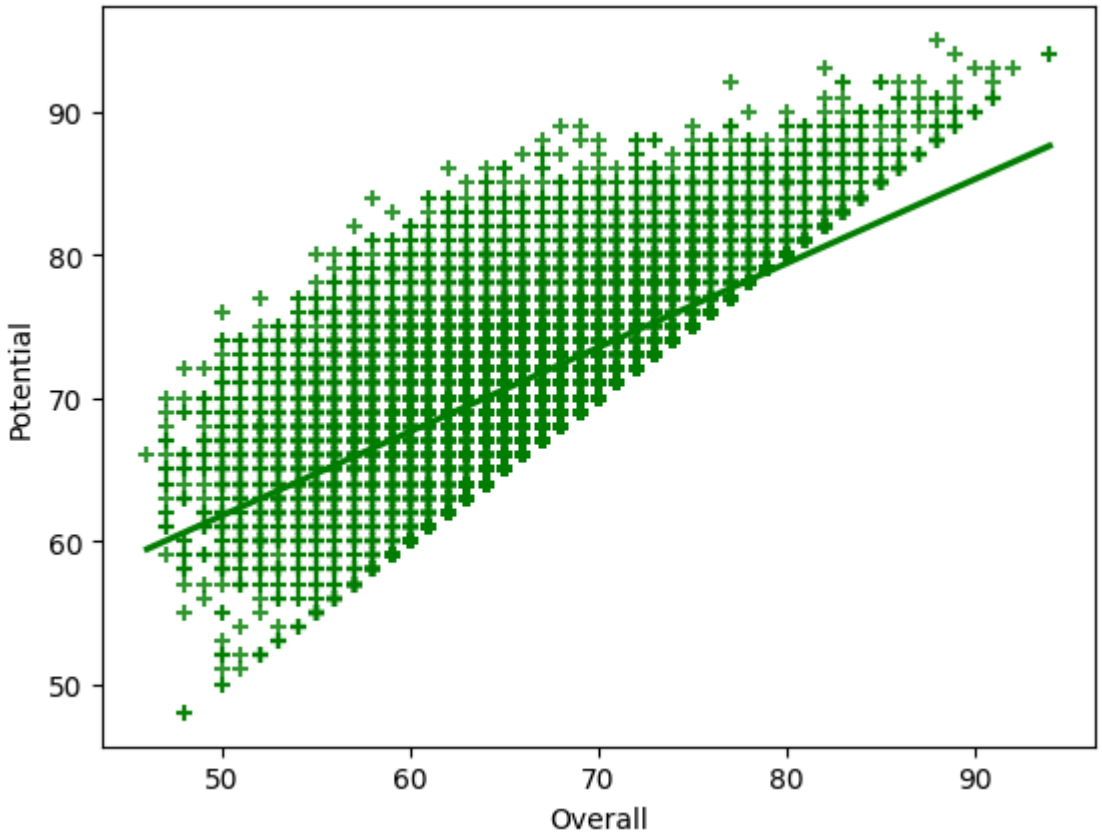
In [36]:
```
sns.regplot(x='Overall',y='Potential',data=fifa19)
```

Out[36]: <Axes: xlabel='Overall', ylabel='Potential'>



In [37]:
```
sns.regplot(x='Overall',y='Potential',data=fifa19,color='g',marker='+')
```

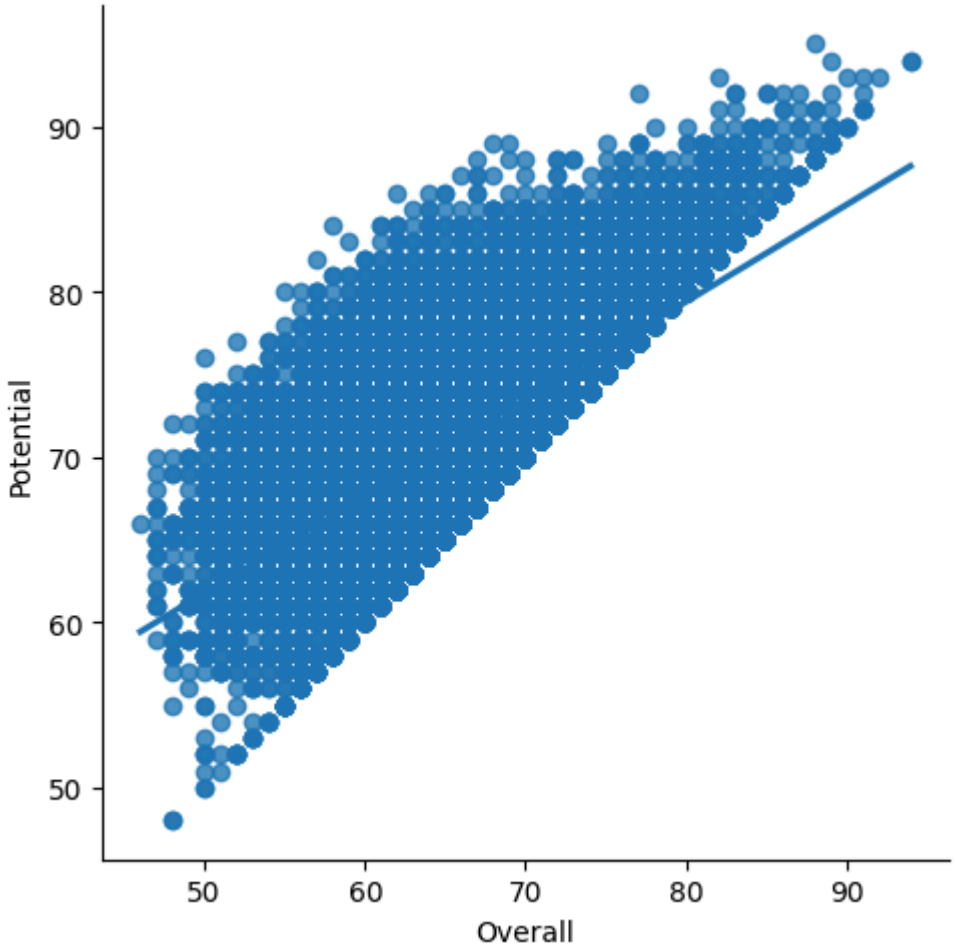
Out[37]: <Axes: xlabel='Overall', ylabel='Potential'>



LMPLOT

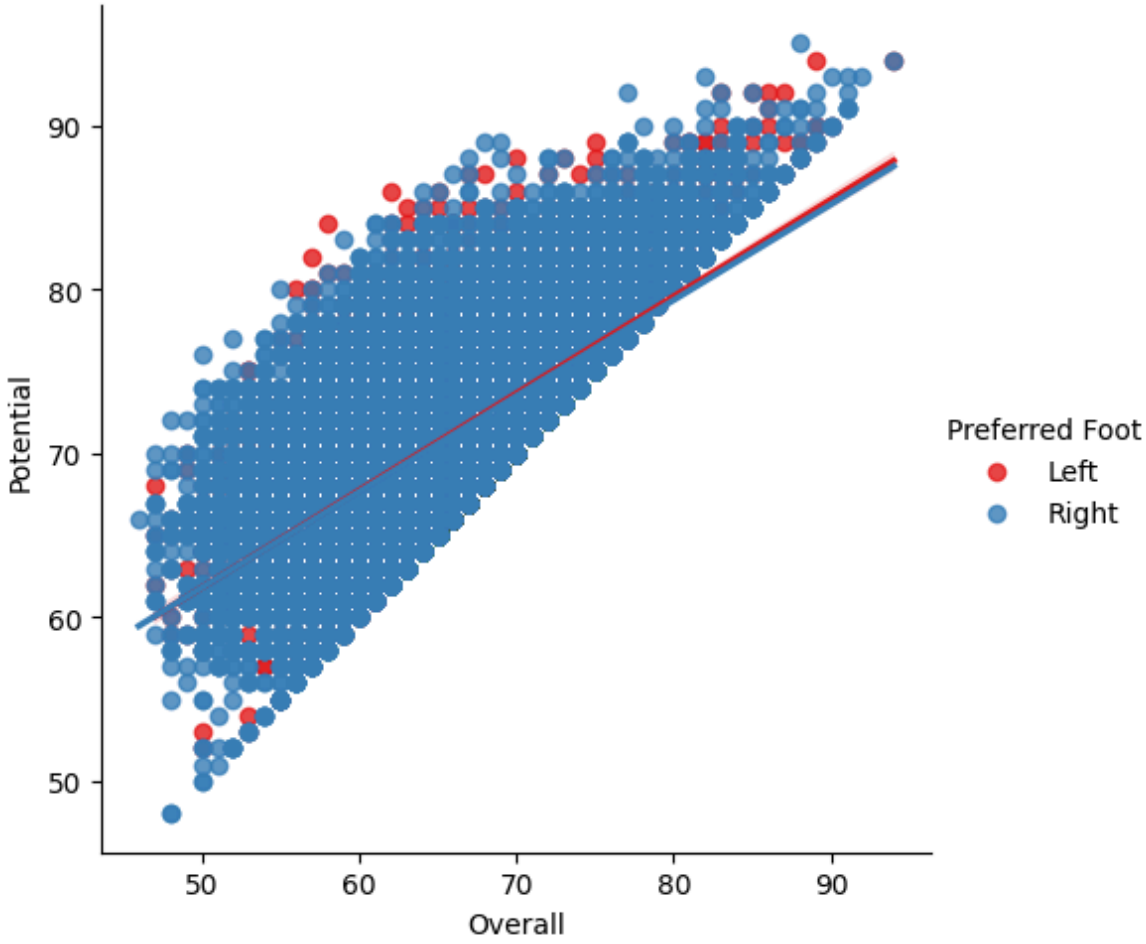
In [38]:
```
sns.lmplot(x='Overall',y='Potential',data=fifa19)
```

Out[38]: <seaborn.axisgrid.FacetGrid at 0x2103b4d5ac0>



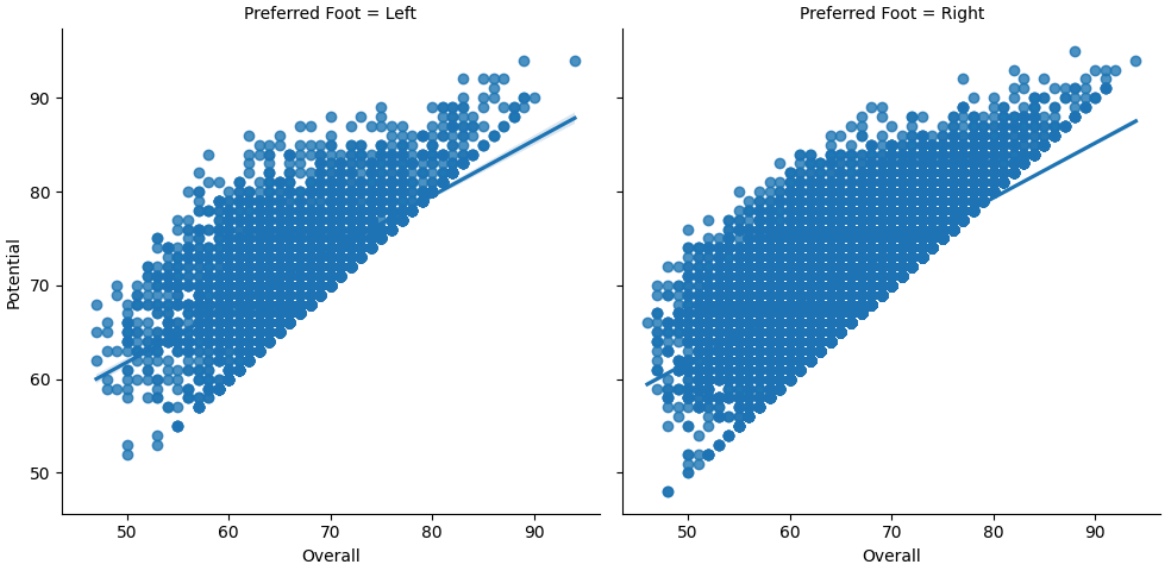
In [39]:
```
sns.lmplot(x='Overall',y='Potential',data=fifa19,hue='Preferred Foot',palette='S
```

Out[39]:
```
<seaborn.axisgrid.FacetGrid at 0x2103d248980>
```



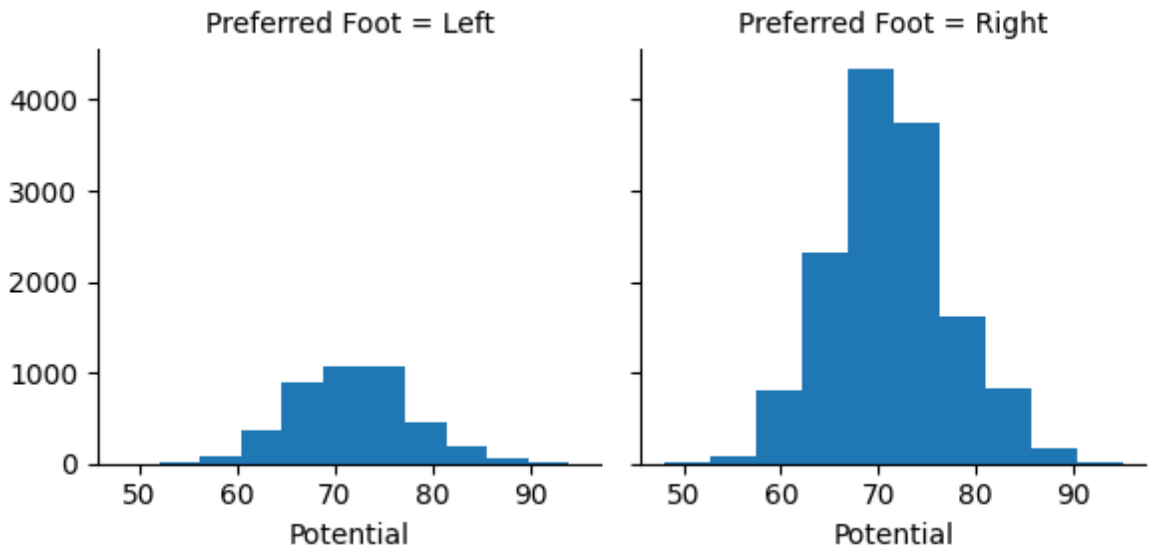
In [40]:
```
sns.lmplot(x='Overall',y='Potential',data=fifa19,col='Preferred Foot')
```

Out[40]:
```
<seaborn.axisgrid.FacetGrid at 0x2103b549eb0>
```

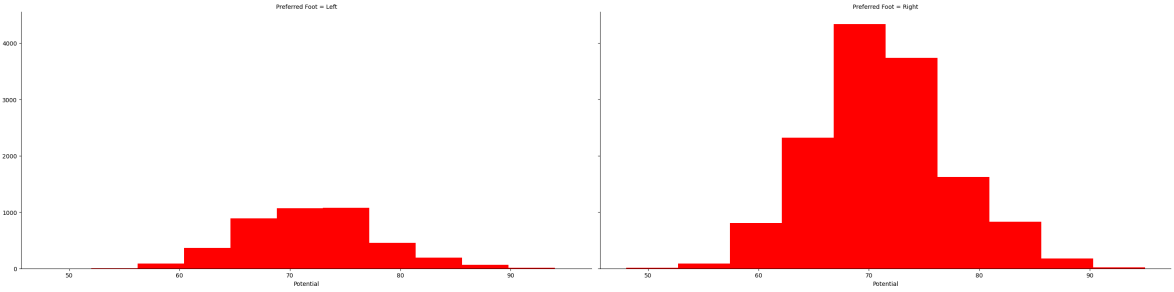


FACEGRID

In [41]:
```
g=sns.FacetGrid(fifa19,col='Preferred Foot')
g=g.map(plt.hist,'Potential')
```

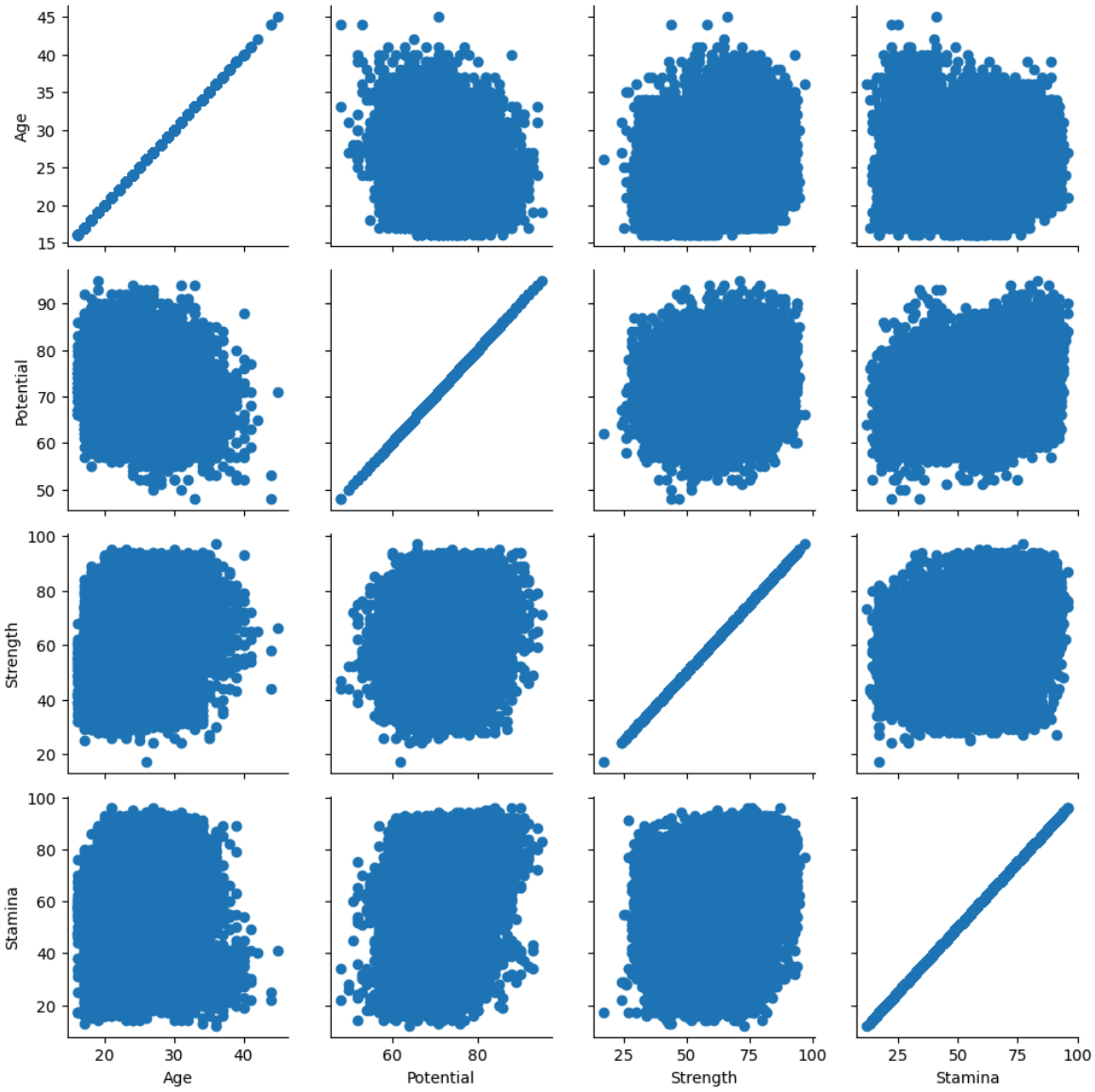


In [42]:
```
g=sns.FacetGrid(fifa19,col='Preferred Foot',height=7,aspect=2)
g=g.map(plt.hist,'Potential',bins=10,color='r')
```

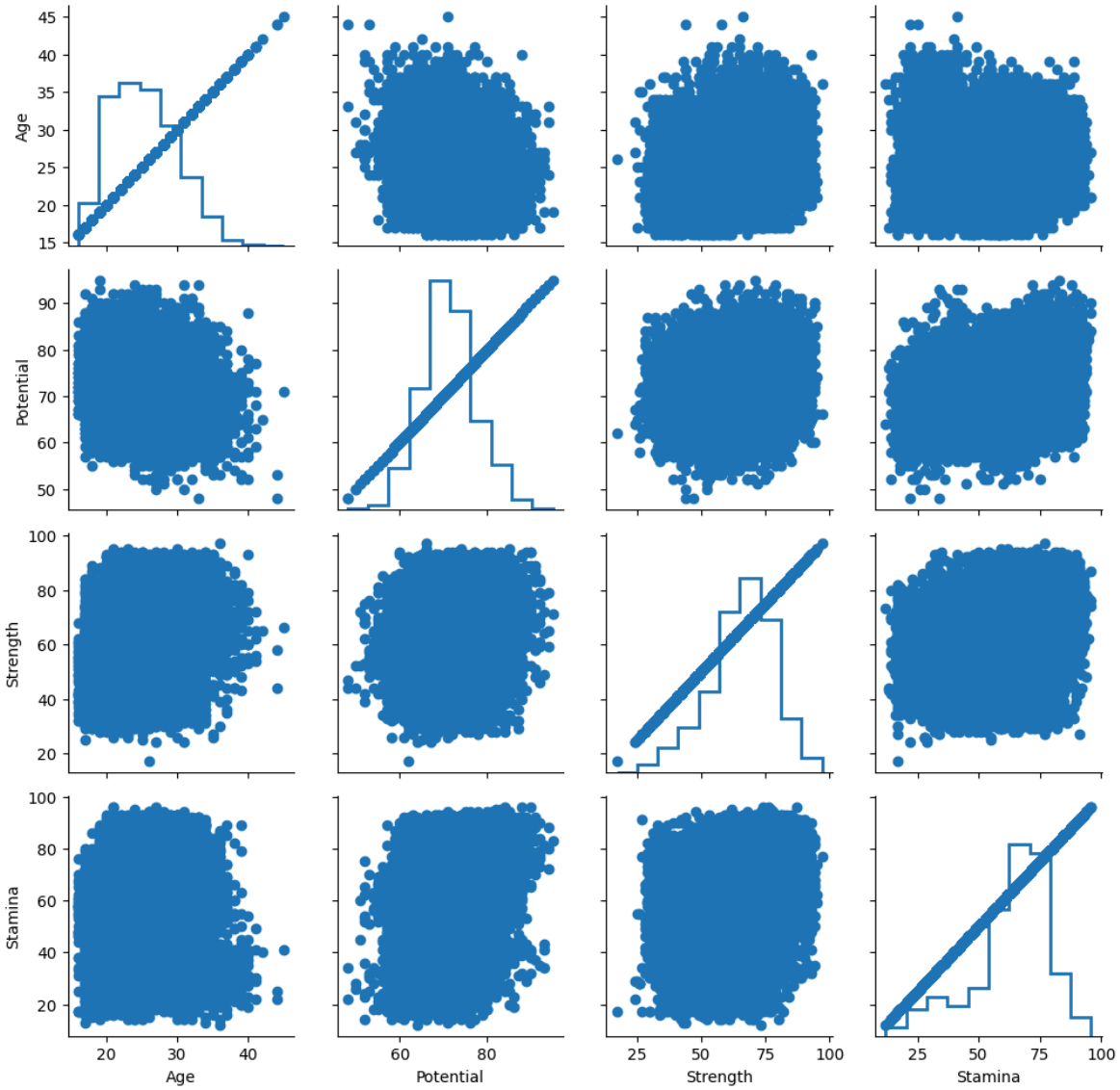


PAIRGRID

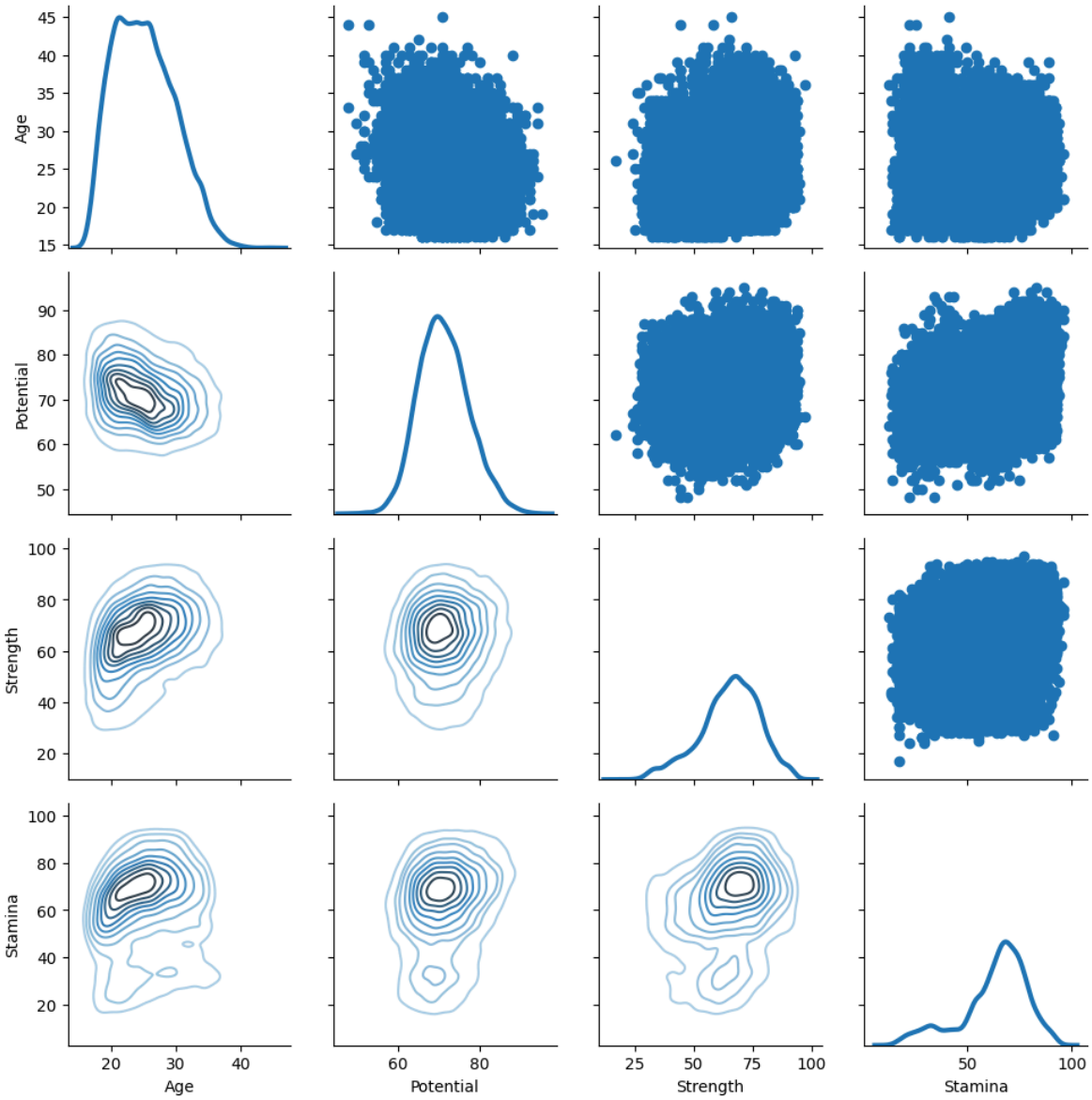
In [43]:
```
fifa_new=fifa19[['Age','Potential','Strength','Stamina','Preferred Foot']]
g=sns.PairGrid(fifa_new)
g=g.map(plt.scatter)
```



In [44]:
```
fifa_new=fifa19[['Age','Potential','Strength','Stamina','Preferred Foot']]
g=sns.PairGrid(fifa_new)
g=g.map_diag(plt.hist,histtype='step',linewidth=2)
g=g.map(plt.scatter)
g=g.add_legend()
```

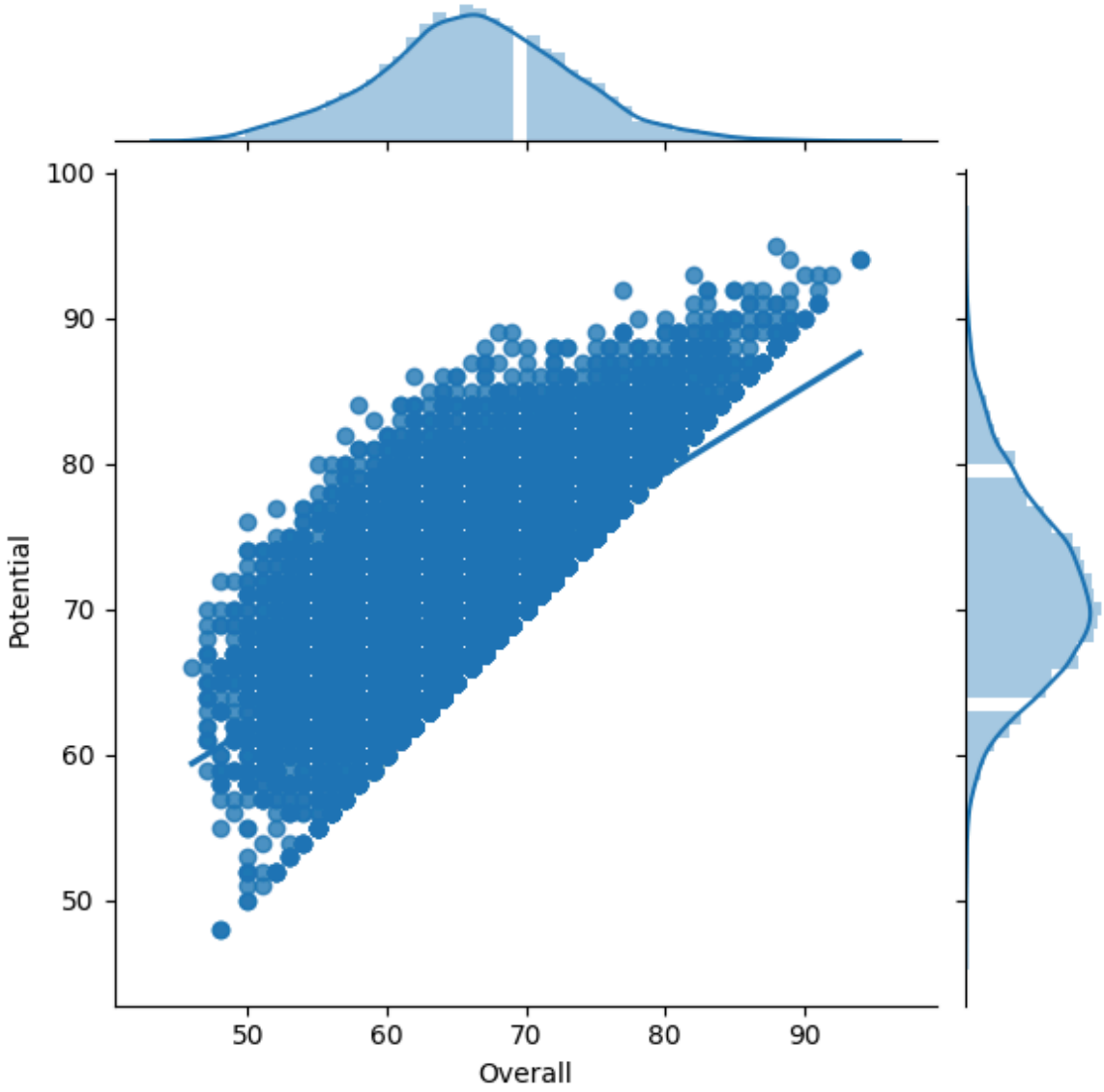


In [45]:
```
g = sns.PairGrid(fifa_new)
g = g.map_upper(plt.scatter)
g = g.map_lower(sns.kdeplot, cmap='Blues_d')
g = g.map_diag(sns.kdeplot, lw=3, legend=False)
```

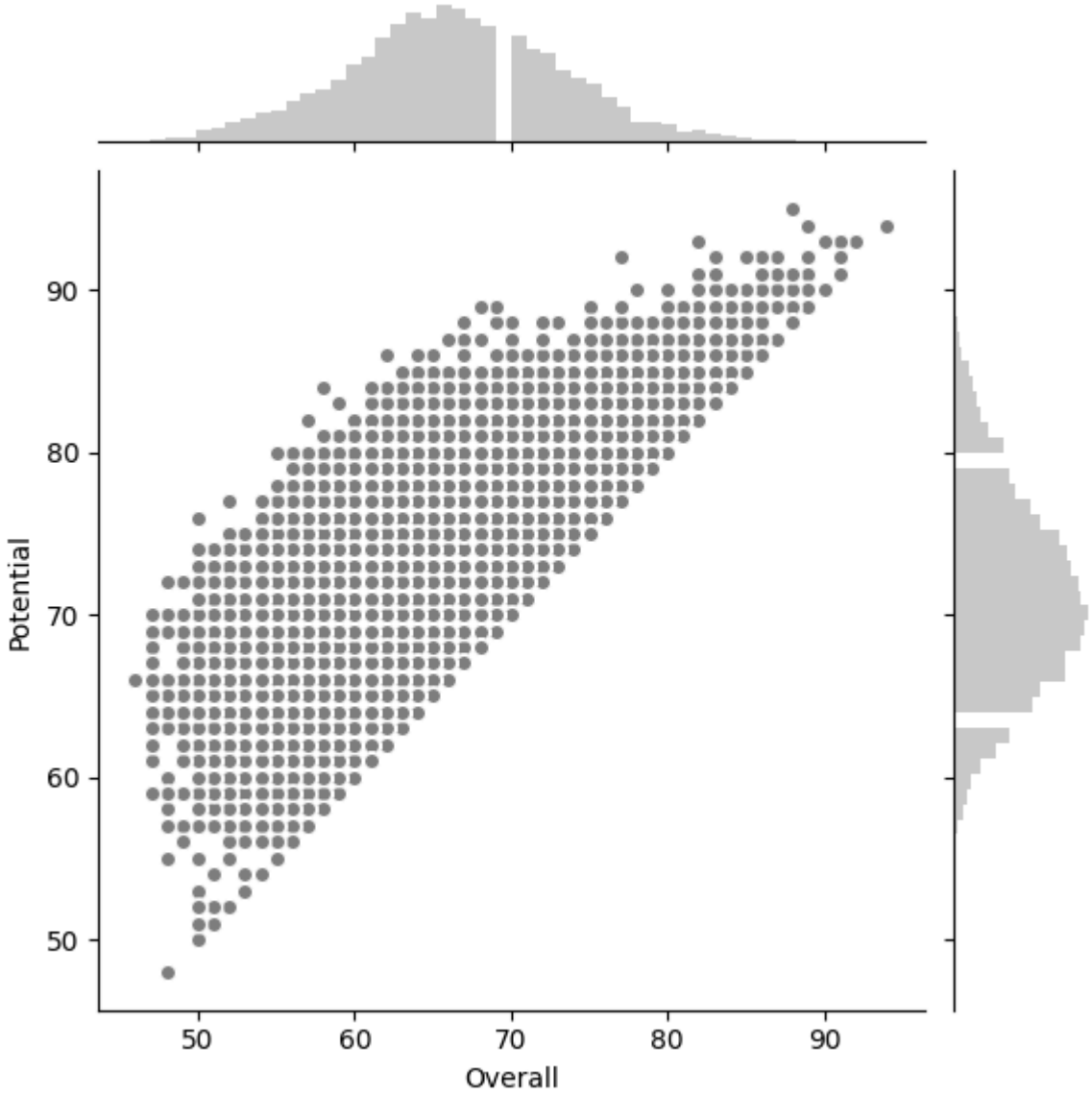


JOINGRID

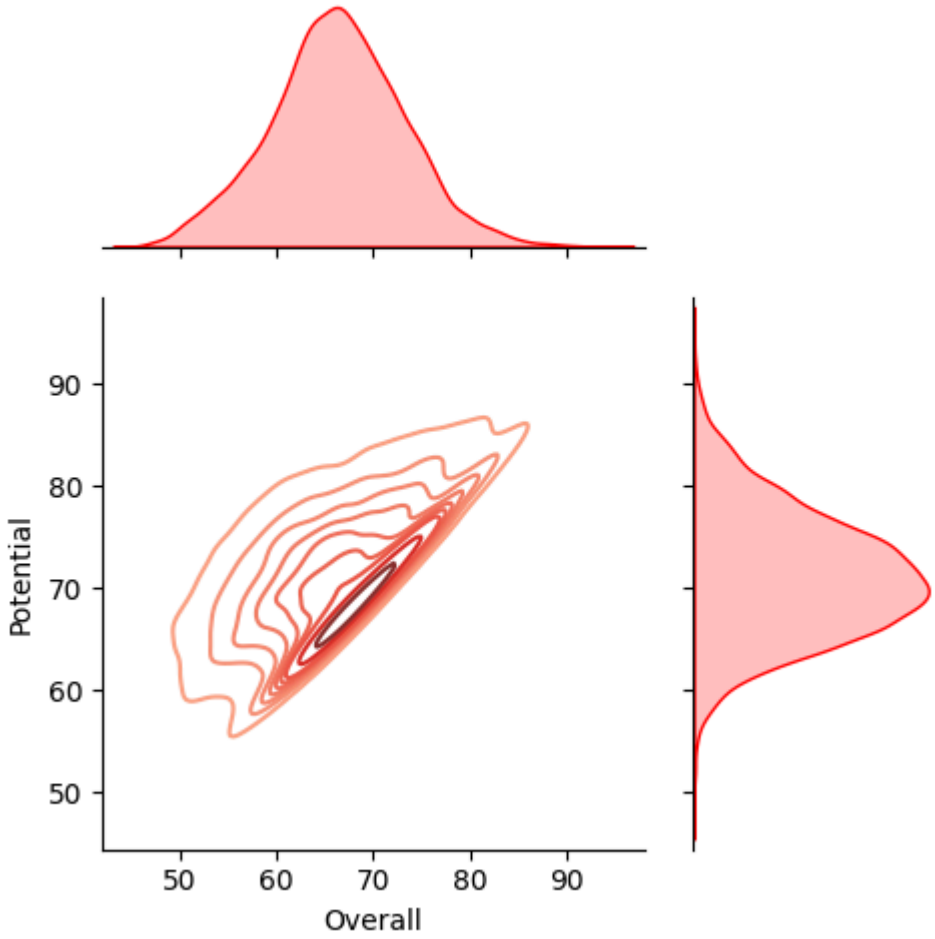
In [46]:
```
g=sns.JointGrid(x='Overall',y='Potential',data=fifa19)
g=g.plot(sns.regplot,sns.distplot)
```



In [47]:
```
g = sns.JointGrid(x='Overall', y='Potential', data=fifa19)
g = g.plot_joint(plt.scatter, color='.5', edgecolor='white')
g = g.plot_marginals(sns.distplot, kde=False, color='.5')
```



In [48]:
```
g = sns.JointGrid(x='Overall', y='Potential', data=fifa19, height=5, ratio=2)
g = g.plot_joint(sns.kdeplot, cmap='Reds_d')
g = g.plot_marginals(sns.kdeplot, color='r', shade=True)
```



In [ ]:

In [ ]: