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

In [ ]:
```
df=pd.read_csv("/content/sample_data/IPL Auction 2022_DataSet.csv")
print(df)
df
```

```
     Set No. Set Name           Player       Country State Association  Ag
e  \
0          1        M         R Ashwin         India               TNCA   3
5
1          1        M      Trent Boult   New Zealand                NaN   3
2
2          1        M      Pat Cummins     Australia                NaN   2
8
3          1        M   Shikhar Dhawan         India               DDCA   3
6
4          1        M   Faf Du Plessis  South Africa                NaN   3
7
..       ...      ...              ...           ...                ...
...
179       53     UAL8       Ansh Patel         India                BCA   2
0
180       54     UFA8     Ashok Sharma         India                RCA   1
9
181       57    UAL10  Arjun Tendulkar         India                MCA   2
2
182       59    UAL12  Shubham Garhwal         India                RCA   2
6
183       60    UAL13     Anunay Singh         India               BICA   2
9

      Specialism Batting                   Bowling    IPL Previous IPLTeam
(s)  \
0    ALL-ROUNDER     RHB        RIGHT ARM Off Spin  167.0  CSK, RSP, KXIP,
DC
1         BOWLER     RHB      LEFT ARM Fast Medium   62.0     SRH, KKR, D
D,MI
2    ALL-ROUNDER     RHB            RIGHT ARM Fast   37.0         DD, MI,
KKR
3        BATSMAN     LHB                         -  192.0    DCH, MI, SRH,
DC
4        BATSMAN     RHB        RIGHT ARM Leg Spin  100.0            RPS,
CSK
..           ...     ...                       ...    ...
...
179  ALL-ROUNDER     RHB  LEFT ARM Slow Unorthodox    NaN
NaN
180       BOWLER     RHB     RIGHT ARM Fast Medium    NaN
NaN
181  ALL-ROUNDER     LHB      LEFT ARM Fast Medium    0.0
MI
182  ALL-ROUNDER     LHB    LEFT ARM Slow Orthodox    NaN
NaN
183  ALL-ROUNDER     RHB     RIGHT ARM Fast Medium    NaN
NaN

    2021 Team     C/U/A Base Price Sold Price               New Franchise
0          DC    Capped       2 CR       5 CR            Rajasthan Royals
1          MI    Capped       2 CR       8 CR            Rajasthan Royals
2         KKR    Capped       2 CR    7.25 CR       Kolkata Knight Riders
3          DC    Capped       2 CR    8.25 CR                Punjab Kings
4         CSK    Capped       2 CR       7 CR  Royal Challengers Bangalore
..        ...       ...        ...        ...                         ...
179       NaN  Uncapped       20 L       20 L                Punjab Kings
180       NaN  Uncapped       20 L       55 L       Kolkata Knight Riders
181        MI  Uncapped       20 L       30 L              Mumbai Indians
182       NaN  Uncapped       20 L       20 L            Rajasthan Royals
```

```
183        NaN  Uncapped        20 L        20 L                Rajasthan Royals

[184 rows x 16 columns]
```

Out[4]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IP
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	LEFT ARM Fast Medium	62.
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	RIGHT ARM Fast	37.
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.
...	...	...	...	...	...	...	...	...	...	.
179	53	UAL8	Ansh Patel	India	BCA	20	ALL-ROUNDER	RHB	LEFT ARM Slow Unorthodox	Na
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	RIGHT ARM Fast Medium	Na
181	57	UAL10	Arjun Tendulkar	India	MCA	22	ALL-ROUNDER	LHB	LEFT ARM Fast Medium	0.
182	59	UAL12	Shubham Garhwal	India	RCA	26	ALL-ROUNDER	LHB	LEFT ARM Slow Orthodox	Na
183	60	UAL13	Anunay Singh	India	BICA	29	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	Na

184 rows × 16 columns

In [ ]:
```
df.ndim # Dimension of DataFrame
```

Out[4]: 2

In [ ]:
```
df.shape # Shape of DataFrame
```

Out[5]: (184, 16)

In [ ]:
```
df.size  # Size of DataFrame
```

Out[6]: 2944

In [ ]:
```
type(df) # Type of DataFrame
```

Out[7]: pandas.core.frame.DataFrame

In [ ]:
```
df.describe() # Returns description of the data in the DataFrame
```

Out[8]:

	Set No.	Age	IPL
count	184.000000	184.000000	137.000000
mean	17.989130	27.103261	36.897810
std	14.200742	4.428570	46.902635
min	1.000000	17.000000	0.000000
25%	7.000000	24.000000	3.000000
50%	14.500000	27.000000	21.000000
75%	25.000000	30.250000	50.000000
max	60.000000	38.000000	213.000000

In [ ]:
```
df.head() #  Returns a specified number of rows, string from the top "by de
```

Out[9]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	I IPI
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.0	C
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	LEFT ARM Fast Medium	62.0	SF
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	RIGHT ARM Fast	37.0	
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0	
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.0	R

In [ ]:
```
df.tail()  # Returns a specified number of last rows, bydefault bottom 5
```

Out[10]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
179	53	UAL8	Ansh Patel	India	BCA	20	ALL-ROUNDER	RHB	LEFT ARM Slow Unorthodox	NaN
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	RIGHT ARM Fast Medium	NaN
181	57	UAL10	Arjun Tendulkar	India	MCA	22	ALL-ROUNDER	LHB	LEFT ARM Fast Medium	0.0
182	59	UAL12	Shubham Garhwal	India	RCA	26	ALL-ROUNDER	LHB	LEFT ARM Slow Orthodox	NaN
183	60	UAL13	Anunay Singh	India	BICA	29	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	NaN

In [ ]:
```
for index,row in df.iterrows(): #Series Iter all rows according to the index
  print(index,row)
```

```
0 Set No.                                1
Set Name                                 M
Player                          R Ashwin
Country                            India
State Association                   TNCA
Age                                   35
Specialism                    ALL-ROUNDER
Batting                               RHB
Bowling                RIGHT ARM Off Spin
IPL                                167.0
Previous IPLTeam(s)    CSK, RSP, KXIP, DC
2021 Team                             DC
C/U/A                             Capped
Base Price                         2 CR
Sold Price                         5 CR
New Franchise            Rajasthan Royals
Name: 0, dtype: object
1 Set No.                                1
Set Name                                 M
Player                          Trent Boult
```

In [ ]:
```
df.columns  # Attribute returns the column labels of the given Dataframe.
```

Out[12]:
```
Index(['Set No.', 'Set Name', 'Player', 'Country', 'State Association', 'Age',
       'Specialism', 'Batting', 'Bowling', 'IPL', 'Previous IPLTeam(s)',
       '2021 Team', 'C/U/A', 'Base Price', 'Sold Price', 'New Franchise'],
      dtype='object')
```

In [ ]:
```
#df.row will not works
```

In [ ]:
```
df["Player"] # all players data from DataFrame
```

Out[13]:
```
0              R Ashwin
1          Trent Boult
2          Pat Cummins
3       Shikhar Dhawan
4       Faf Du Plessis
             ...
179         Ansh Patel
180       Ashok Sharma
181    Arjun Tendulkar
182    Shubham Garhwal
183       Anunay Singh
Name: Player, Length: 184, dtype: object
```

In [ ]:
```
df["Player"].values #  Attribute return a Numpy representation of the given
```

Out[14]:
```
array(['R Ashwin', 'Trent Boult', 'Pat Cummins', 'Shikhar Dhawan',
       'Faf Du Plessis', 'Shreyas Iyer', 'Kagiso Rabada',
       'Mohammad Shami', 'David Warner', 'Shimron Hetmyer',
       'David Miller', 'Devdutt Padikkal', 'Manish Pandey', 'Jason Roy',
       'Robin Uthappa', 'Dwayne Bravo', 'Wanindu Hasaranga',
       'Jason Holder', 'Mitchell Marsh', 'Krunal Pandya', 'Harshal Patel',
       'Nitish Rana', 'Washington Sundar', 'Jonny Bairstow',
       'Sam Billings', 'Dinesh Karthik', 'Ishan Kishan',
       'Nicholas Pooran', 'Ambati Rayudu', 'Matthew Wade',
       'Deepak Chahar', 'Lockie Ferguson', 'Josh Hazlewood',
       'Prasidh Krishna', 'Bhuvneshwar Kumar', 'Mustafizur Rahman',
       'Shardul Thakur', 'Mark Wood', 'Umesh Yadav', 'Yuzvendra Chahal',
       'Rahul Chahar', 'Kuldeep Yadav', 'Dewald Brevis', 'Priyam Garg',
       'Ashwin Hebbar', 'Abhinav Sadarangani', 'Anmolpreet Singh',
       'Rahul Tripathi', 'Shahbaz Ahamad', 'Harpreet Brar',
       'Deepak Hooda', 'Sarfaraz Khan', 'Shahrukh Khan', 'Shivam Mavi',
       'Kamlesh Nagarkoti', 'Riyan Parag', 'Abhishek Sharma',
       'Rahul Tewatia', 'Sheldon Jackson', 'Anuj Rawat', 'Jitesh Sharma',
       'Prabhsimran Singh', 'Vishnu Vinod', 'Akash Deep',
       'Tushar Deshpande', 'Avesh Khan', 'Ishan Porel', 'Basil Thampi',
       'Kartik Tyagi', 'Noor Ahmad', 'Murugan Ashwin', 'Shreyas Gopal',
       'Jagadeesha Suchith', 'Aiden Markram', 'Ajinkya Rahane',
       'Mandeep Singh', 'Dominic Drakes', 'Shivam Dube', 'K. Gowtham',
       'Marco Jansen', 'Chris Jordan', 'Liam Livingstone',
       'James Neesham', 'Vijay Shankar', 'Odean Smith', 'Jayant Yadav',
       'Dushmanta Chameera', 'Nathan Coulter-Nile', 'Navdeep Saini',
       'Chetan Sakariya', 'Sandeep Sharma', 'Jaydev Unadkat',
       'Mayank Markande', 'Shahbaz Nadeem', 'Karn Sharma',
       'Maheesh Theekshana', 'Rinku Singh', 'Manan Vohra', 'Yash Dhull',
       'Rajvardhan Hangargekar', 'Mahipal Lomror', 'Darshan Nalkande',
       'Vicky Ostwal', 'Ripal Patel', 'Anukul Roy', 'Lalit Yadav',
       'Sanjay Yadav', 'Yash Dayal', 'Kuldeep Sen', 'Simarjeet Singh',
       'Finn Allen', 'Devon Conway', 'Alex Hales', 'Evin Lewis',
       'Karun Nair', 'Rovman Powell', 'Jofra Archer', 'Rishi Dhawan',
       'Daryl Mitchell', 'Dwaine Pretorius', 'Sherfane Rutherford',
       'Daniel Sams', 'Mitchell Santner', 'Romario Shepherd',
       'Glenn Phillips', 'Tim Seifert', 'Jason Behrendorff',
       'Nathan Ellis', 'Fazalhaq Farooqi', 'Siddharth Kaul', 'Obed McCoy',
       'Tymal Mills', 'Adam Milne', 'Subhranshu Senapati', 'Tim David',
       'Pravin Dubey', 'Prerak Mankad', 'Suyash Prabhudessai',
       'Ramandeep Singh', 'Dhruv Jurel', 'Aryan Juyal', 'Luvnith Sisodia',
       'Vaibhav Arora', 'Mukesh Choudhary', 'Rasikh Dar', 'Mohsin Khan',
       'Chama Milind', 'Mayank Yadav', 'Tejas Baroka', 'Prashant Solanki',
       'Fabian Allen', 'Gurkeerat Singh', 'Sean Abbott', 'Alzarri Joseph',
       'Riley Meredith', 'Tim Southee', 'Rahul Buddhi', 'Ayush Badoni',
       'Aneeshwar Gautam', 'Benny Howell', 'Baba Indrajith',
       'Kuldip Yadav', 'Chamika Karunaratne', 'David Willey',
       'Varun Aaron', 'R Samarth', 'Abhijeet Tomar', 'Aman Khan',
       'Pradeep Sangwan', 'Ramesh Kumar', 'Pratham Singh',
       'Writtick Chatterjee', 'Hrithik Shokeen', 'Shashank SIngh',
       'Kyle Mayers', 'Karan Sharma', 'Baltej Dhanda', 'Saurabh Dubey',
       'Lalit Yadav', 'Ansh Patel', 'Ashok Sharma', 'Arjun Tendulkar',
       'Shubham Garhwal', 'Anunay Singh'], dtype=object)
```

In [ ]:
```
df["Country"].to_list() #Converted Country column data into list
```

Out[15]:
```
['India',
 'New Zealand',
 'Australia',
 'India',
 'South Africa',
 'India',
 'South Africa',
 'India',
 'Australia',
 'West Indies',
 'South Africa',
 'India',
 'India',
 'England',
 'India',
 'West Indies',
 'Sri Lanka',
 'West Indies',
 'Australia',
```

In [ ]:
```
df[["Player","Country"]] # 2 different column in DataFrame
```

Out[16]:

	Player	Country
0	R Ashwin	India
1	Trent Boult	New Zealand
2	Pat Cummins	Australia
3	Shikhar Dhawan	India
4	Faf Du Plessis	South Africa
...	...	...
179	Ansh Patel	India
180	Ashok Sharma	India
181	Arjun Tendulkar	India
182	Shubham Garhwal	India
183	Anunay Singh	India

184 rows × 2 columns

In [ ]:
```
df.dtypes # Type of DataFrame
```

Out[23]:
```
Set No.                 int64
Set Name               object
Player                 object
Country                object
State Association      object
Age                     int64
Specialism             object
Batting                object
Bowling                object
IPL                   float64
Previous IPLTeam(s)    object
2021 Team              object
C/U/A                  object
Base Price             object
Sold Price             object
New Franchise          object
dtype: object
```

In [ ]:
```
type(df.shape) # Type of DataFrame of shape Column
```

Out[25]:
```
tuple
```

In [ ]:
```
df.sample() #we can add numbers in paranthesis if we need specific number o
```

Out[30]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	Pre IPLTe
80	13	AL2	Chris Jordan	England	NaN	33	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	24.0	RCB

In [ ]:
```
#dir(df) #gives all the function buit-in under the pandas dir(DataFrame)
```

In [ ]:
```
df.axes # This attribute is used to access the group of rows and columns la
```

Out[31]:
```
[RangeIndex(start=0, stop=184, step=1),
 Index(['Set No.', 'Set Name', 'Player', 'Country', 'State Association',
'Age',
       'Specialism', 'Batting', 'Bowling', 'IPL', 'Previous IPLTeam(s)',
       '2021 Team', 'C/U/A', 'Base Price', 'Sold Price', 'New Franchis
e'],
      dtype='object')]
```

In [ ]:
```
df["Sold Price"]
```

Out[35]:
```
0         5 CR
1         8 CR
2      7.25 CR
3      8.25 CR
4         7 CR
        ...
179       20 L
180       55 L
181       30 L
182       20 L
183       20 L
Name: Sold Price, Length: 184, dtype: object
```

In [ ]:
```
df[["Base Price","Sold Price"]]
```

Out[36]:

	Base Price	Sold Price
0	2 CR	5 CR
1	2 CR	8 CR
2	2 CR	7.25 CR
3	2 CR	8.25 CR
4	2 CR	7 CR
...	...	...
179	20 L	20 L
180	20 L	55 L
181	20 L	30 L
182	20 L	20 L
183	20 L	20 L

184 rows × 2 columns

In [ ]:
```
df.columns
```

Out[43]:
```
Index(['Set No.', 'Set Name', 'Player', 'Country', 'State Association', 'Age',
       'Specialism', 'Batting', 'Bowling', 'IPL', 'Previous IPLTeam(s)',
       '2021 Team', 'C/U/A', 'Base Price', 'Sold Price', 'New Franchise'],
      dtype='object')
```

In [ ]:
```
df["Player"]
```

Out[8]:
```
0              R Ashwin
1          Trent Boult
2          Pat Cummins
3       Shikhar Dhawan
4       Faf Du Plessis
             ...
179         Ansh Patel
180       Ashok Sharma
181    Arjun Tendulkar
182    Shubham Garhwal
183       Anunay Singh
Name: Player, Length: 184, dtype: object
```

In [ ]:
```
df[5:10] # Slicing, got all data from 5th row to 9th row
```

Out[46]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin	87.0
6	1	M	Kagiso Rabada	South Africa	NaN	26	BOWLER	LHB	RIGHT ARM Fast	50.0
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	77.0
8	1	M	David Warner	Australia	NaN	35	BATSMAN	LHB	-	150.0
9	2	BA1	Shimron Hetmyer	West Indies	NaN	25	BATSMAN	LHB	RIGHT ARM Leg Spin	31.0

In [ ]:
```
df.loc[5:10] # Use of loc, and got all data from 5th row to 10th row
```

Out[9]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin	87.0
6	1	M	Kagiso Rabada	South Africa	NaN	26	BOWLER	LHB	RIGHT ARM Fast	50.0
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	77.0
8	1	M	David Warner	Australia	NaN	35	BATSMAN	LHB	-	150.0
9	2	BA1	Shimron Hetmyer	West Indies	NaN	25	BATSMAN	LHB	RIGHT ARM Leg Spin	31.0
10	2	BA1	David Miller	South Africa	NaN	32	BATSMAN	LHB	-	89.0

In [ ]:
```
df["Player"][11:18] # Slicing got all players name from 11th to 17th row as
```

Out[47]:
```
11     Devdutt Padikkal
12        Manish Pandey
13            Jason Roy
14        Robin Uthappa
15         Dwayne Bravo
16    Wanindu Hasaranga
17         Jason Holder
Name: Player, dtype: object
```

In [ ]:
```
df.loc[8] #Got detail for 8th row
```

Out[48]:
```
Set No.                          1
Set Name                         M
Player                 David Warner
Country                   Australia
State Association               NaN
Age                              35
Specialism                  BATSMAN
Batting                         LHB
Bowling                           -
IPL                           150.0
Previous IPLTeam(s)         DD, SRH
2021 Team                       SRH
C/U/A                        Capped
Base Price                    2 CR
Sold Price                  6.25 CR
New Franchise         Delhi Capitals
Name: 8, dtype: object
```

In [ ]:
```
df.loc[2:8] # Got all details from 2nd row till 8th row as we have use loc,
```

Out[49]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	RIGHT ARM Fast	37.0
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.0
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin	87.0
6	1	M	Kagiso Rabada	South Africa	NaN	26	BOWLER	LHB	RIGHT ARM Fast	50.0
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	77.0
8	1	M	David Warner	Australia	NaN	35	BATSMAN	LHB	-	150.0

In [ ]:
```
df.loc[df["Set Name"]=="M"] # All Data With Set Name ==M
```

Out[50]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.0
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	LEFT ARM Fast Medium	62.0
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	RIGHT ARM Fast	37.0
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.0
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin	87.0
6	1	M	Kagiso Rabada	South Africa	NaN	26	BOWLER	LHB	RIGHT ARM Fast	50.0
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	77.0
8	1	M	David Warner	Australia	NaN	35	BATSMAN	LHB	-	150.0

In [ ]:
```
df.loc[df["Country"]=="India"] #All Indian Player
```

Out[51]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	16
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	19
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin	8
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	7
11	2	BA1	Devdutt Padikkal	India	KSCA	21	BATSMAN	LHB	RIGHT ARM Off Spin	2
...	...	...	...	...	...	...	...	...	...	
179	53	UAL8	Ansh Patel	India	BCA	20	ALL-ROUNDER	RHB	LEFT ARM Slow Unorthodox	N
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	RIGHT ARM Fast Medium	N
181	57	UAL10	Arjun Tendulkar	India	MCA	22	ALL-ROUNDER	LHB	LEFT ARM Fast Medium	
182	59	UAL12	Shubham Garhwal	India	RCA	26	ALL-ROUNDER	LHB	LEFT ARM Slow Orthodox	N
183	60	UAL13	Anunay Singh	India	BICA	29	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	N

122 rows × 16 columns

In [ ]:
```
df.loc[df["Age"]>30] #all palyers with age above 30
```

Out[53]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bow
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RI ARM
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	L A Mec
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RI A Leg
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RI A

In [ ]:
```
df.loc[df["Age"]>30].head(5) #all palyers with above 30 age top 5 result on
```

Out[10]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.0
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	LEFT ARM Fast Medium	62.0
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.0
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	77.0

In [ ]:
```
#all palyers with above 30 age but only indaian player
df.loc[(df["Country"]=="India")&(df["Age"]>30)] # &- Bitwise And Operator is
```

Out[54]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast
12	2	BA1	Manish Pandey	India	KSCA	32	BATSMAN	RHB	RIGHT ARM Off Spin
14	2	BA1	Robin Uthappa	India	KCA	36	BATSMAN	RHB	
19	3	AL1	Krunal Pandya	India	BCA	31	ALL-ROUNDER	LHB	LEFT ARM Slow Orthodox
20	3	AL1	Harshal Patel	India	HCA	31	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium
25	4	WK1	Dinesh Karthik	India	TNCA	36	WICKETKEEPER	RHB	
28	4	WK1	Ambati Rayudu	India	ACA	36	WICKETKEEPER	RHB	
34	5	FA1	Bhuvneshwar Kumar	India	UPCA	32	BOWLER	RHB	RIGHT ARM Fast Medium
38	5	FA1	Umesh Yadav	India	VCA	34	BOWLER	RHB	RIGHT ARM Fast
39	6	SP1	Yuzvendra Chahal	India	HCA	31	BOWLER	RHB	RIGHT ARM Leg Spin
47	7	UBA1	Rahul Tripathi	India	MACA	31	BATSMAN	RHB	RIGHT ARM Medium
58	9	UWK1	Sheldon Jackson	India	SCA	35	WICKETKEEPER	RHB	
70	11	USP1	Murugan Ashwin	India	TNCA	31	BOWLER	RHB	RIGHT ARM Leg Spin
74	12	BA2	Ajinkya Rahane	India	MCA	33	BATSMAN	RHB	
78	13	AL2	K. Gowtham	India	KSCA	33	ALL-ROUNDER	RHB	RIGHT ARM Off Spin

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling
83	13	AL2	Vijay Shankar	India	TNCA	31	ALL-ROUNDER	RHB	RIGHT ARM Fas Mediun
85	13	AL2	Jayant Yadav	India	HCA	32	ALL-ROUNDER	RHB	RIGHT ARM Of Spir
93	15	SP2	Shahbaz Nadeem	India	JSCA	32	BOWLER	RHB	LEFT ARM Slow Orthodo
94	15	SP2	Karn Sharma	India	RSPB	34	BOWLER	LHB	RIGHT ARM Leg Spir
117	20	AL3	Rishi Dhawan	India	HPCA	32	ALL-ROUNDER	RHB	RIGHT ARM Fas Mediun
129	22	FA3	Siddharth Kaul	India	PCA	31	BOWLER	RHB	RIGHT ARM Fas Mediun
151	30	AL4	Gurkeerat Singh	India	PCA	31	ALL-ROUNDER	RHB	RIGHT ARM Of Spir
164	39	FA5	Varun Aaron	India	JSCA	32	BOWLER	RHB	RIGHT ARM Fas
168	41	UAL5	Pradeep Sangwan	India	DDCA	31	ALL-ROUNDER	RHB	LEFT ARM Fas
176	52	UFA7	Baltej Dhanda	India	PCA	31	BOWLER	RHB	RIGHT ARM Fas Mediun

In [ ]:
```
df.loc[(df["Country"]=="India")&(df["Age"]>30)].head(5) # All indian Player
```

Out[11]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.0
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	77.0
12	2	BA1	Manish Pandey	India	KSCA	32	BATSMAN	RHB	RIGHT ARM Off Spin	154.0
14	2	BA1	Robin Uthappa	India	KCA	36	BATSMAN	RHB	-	193.0

In [ ]:
```
#pull all player with Capitol S.
df.loc[df["Player"].str.startswith("S")]
```

Out[55]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowlin
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGH ARM Leg Spi
9	2	BA1	Shimron Hetmyer	West Indies	NaN	25	BATSMAN	LHB	RIGH ARM Leg Spi
24	4	WK1	Sam Billings	England	NaN	30	WICKETKEEPER	RHB	
36	5	FA1	Shardul Thakur	India	MCA	30	BOWLER	RHB	RIGH ARM Fas Mediur
48	8	UAL1	Shahbaz Ahamad	India	CAB	27	ALL-ROUNDER	LHB	LEF ARM Slov Orthodo
51	8	UAL1	Sarfaraz Khan	India	MCA	24	ALL-ROUNDER	RHB	RIGH ARM Leg Spi
52	8	UAL1	Shahrukh Khan	India	TNCA	26	ALL-ROUNDER	RHB	RIGH ARM O Spi
53	8	UAL1	Shivam Mavi	India	UPCA	23	ALL-ROUNDER	RHB	RIGH ARM Fas Mediur
58	9	UWK1	Sheldon Jackson	India	SCA	35	WICKETKEEPER	RHB	
71	11	USP1	Shreyas Gopal	India	KSCA	28	BOWLER	RHB	RIGH ARM Leg Spi
77	13	AL2	Shivam Dube	India	MCA	28	ALL-ROUNDER	LHB	RIGH ARM Fas Mediur
90	14	FA2	Sandeep Sharma	India	UTCA	28	BOWLER	RHB	RIGH ARM Fas Mediur
93	15	SP2	Shahbaz Nadeem	India	JSCA	32	BOWLER	RHB	LEF ARM Slov Orthodo
106	17	UAL2	Sanjay Yadav	India	TNCA	26	ALL-ROUNDER	LHB	LEF ARM Slov Orthodo
109	18	UFA2	Simarjeet Singh	India	DDCA	24	BOWLER	RHB	RIGH ARM Fas

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowlin
120	20	AL3	Sherfane Rutherford	West Indies	NaN	23	ALL-ROUNDER	LHB	RIGH ARI Mediur
129	22	FA3	Siddharth Kaul	India	PCA	31	BOWLER	RHB	RIGH ARI Fas Mediur
133	24	UBA3	Subhranshu Senapati	India	OCA	25	BATSMAN	RHB	RIGH ARI Fas Mediur
137	25	UAL3	Suyash Prabhudessai	India	GCA	24	ALL-ROUNDER	RHB	RIGH ARI Fas Mediur
152	31	FA4	Sean Abbott	Australia	NaN	30	BOWLER	RHB	RIGH ARI Fas
173	48	UAL6	Shashank SIngh	India	CSCSCA	30	ALL-ROUNDER	RHB	RIGH ARI Mediur
177	52	UFA7	Saurabh Dubey	India	VCA	24	BOWLER	RHB	LEF ARI Fas Mediur
182	59	UAL12	Shubham Garhwal	India	RCA	26	ALL-ROUNDER	LHB	LEF ARI Slo Orthodo

In [ ]:
```
#all players without "S"
df.loc[~df["Player"].str.startswith("S")] #using ~
```

Out[12]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IP
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	LEFT ARM Fast Medium	62.
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	RIGHT ARM Fast	37.
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.
6	1	M	Kagiso Rabada	South Africa	NaN	26	BOWLER	LHB	RIGHT ARM Fast	50.
...	...	...	...	...	...	...	...	...	...	.
178	52	UFA7	Lalit Yadav	India	VCA	26	BOWLER	RHB	RIGHT ARM Fast	Na
179	53	UAL8	Ansh Patel	India	BCA	20	ALL-ROUNDER	RHB	LEFT ARM Slow Unorthodox	Na
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	RIGHT ARM Fast Medium	Na
181	57	UAL10	Arjun Tendulkar	India	MCA	22	ALL-ROUNDER	LHB	LEFT ARM Fast Medium	0.
183	60	UAL13	Anunay Singh	India	BICA	29	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	Na

160 rows × 16 columns

In [ ]:
```
df.loc[(df["Player"].str.contains("S"))&(df["Country"]=="West Indies")] #in
```

Out[58]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
9	2	BA1	Shimron Hetmyer	West Indies	NaN	25	BATSMAN	LHB	RIGHT ARM Leg Spin	31.0
84	13	AL2	Odean Smith	West Indies	NaN	25	ALL-ROUNDER	RHB	RIGHT ARM Fast	NaN
120	20	AL3	Sherfane Rutherford	West Indies	NaN	23	ALL-ROUNDER	LHB	RIGHT ARM Medium	7.0
123	20	AL3	Romario Shepherd	West Indies	NaN	27	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	NaN

In [ ]:
```
df["Player"][:10] # Pulling all players till 10th column Method 1
```

Out[60]:
```
0           R Ashwin
1       Trent Boult
2       Pat Cummins
3     Shikhar Dhawan
4     Faf Du Plessis
5       Shreyas Iyer
6      Kagiso Rabada
7     Mohammad Shami
8       David Warner
9    Shimron Hetmyer
Name: Player, dtype: object
```

In [ ]:
```
df["Player"].head(3)   # Pulling all players using head function Method 2
```

Out[62]:
```
0       R Ashwin
1    Trent Boult
2    Pat Cummins
Name: Player, dtype: object
```

In [ ]:
```
df.tail(-4) #exclude first four entries
```

Out[63]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	10
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin	8
6	1	M	Kagiso Rabada	South Africa	NaN	26	BOWLER	LHB	RIGHT ARM Fast	5
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	7
8	1	M	David Warner	Australia	NaN	35	BATSMAN	LHB	-	15
...	...	...	...	...	...	...	...	...	...	
179	53	UAL8	Ansh Patel	India	BCA	20	ALL-ROUNDER	RHB	LEFT ARM Slow Unorthodox	N
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	RIGHT ARM Fast Medium	N
181	57	UAL10	Arjun Tendulkar	India	MCA	22	ALL-ROUNDER	LHB	LEFT ARM Fast Medium	
182	59	UAL12	Shubham Garhwal	India	RCA	26	ALL-ROUNDER	LHB	LEFT ARM Slow Orthodox	N
183	60	UAL13	Anunay Singh	India	BICA	29	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	N

180 rows × 16 columns

In [ ]:
```
df.head(-4) #exclude last 4 rows
```

Out[64]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.0
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	LEFT ARM Fast Medium	62.0
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	RIGHT ARM Fast	37.0
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.0
...	...	...	...	...	...	...	...	...	...	..
175	51	UAL7	Karan Sharma	India	UPCA	23	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	NaN
176	52	UFA7	Baltej Dhanda	India	PCA	31	BOWLER	RHB	RIGHT ARM Fast Medium	NaN
177	52	UFA7	Saurabh Dubey	India	VCA	24	BOWLER	RHB	LEFT ARM Fast Medium	NaN
178	52	UFA7	Lalit Yadav	India	VCA	26	BOWLER	RHB	RIGHT ARM Fast	NaN
179	53	UAL8	Ansh Patel	India	BCA	20	ALL-ROUNDER	RHB	LEFT ARM Slow Unorthodox	NaN

180 rows × 16 columns

In [ ]:
```
df.loc[3:6] #slicing using loc, got all details form 3rd to 6th row.
```

Out[65]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	P IPL
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0	D S
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.0	RP
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin	87.0	
6	1	M	Kagiso Rabada	South Africa	NaN	26	BOWLER	LHB	RIGHT ARM Fast	50.0	

In [ ]:
```
df.loc[3:16:2] #all deatils from 3 to 16 with stepping of 2
```

Out[13]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin	87.0
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	77.0
9	2	BA1	Shimron Hetmyer	West Indies	NaN	25	BATSMAN	LHB	RIGHT ARM Leg Spin	31.0
11	2	BA1	Devdutt Padikkal	India	KSCA	21	BATSMAN	LHB	RIGHT ARM Off Spin	29.0
13	2	BA1	Jason Roy	England	NaN	31	BATSMAN	RHB	-	13.0
15	3	AL1	Dwayne Bravo	West Indies	NaN	38	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	151.0

In [ ]:
```
df[3:6] #without loc, only got 3rd to 5th row
```

Out[66]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	P IPLT
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0	D S
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.0	RF
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin	87.0	

In [ ]:
```
df.loc[df["Batting"]=="LHB"].head(5) # All players with batting style LHB
```

Out[67]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	IPI
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0	
6	1	M	Kagiso Rabada	South Africa	NaN	26	BOWLER	LHB	RIGHT ARM Fast	50.0	
8	1	M	David Warner	Australia	NaN	35	BATSMAN	LHB	-	150.0	
9	2	BA1	Shimron Hetmyer	West Indies	NaN	25	BATSMAN	LHB	RIGHT ARM Leg Spin	31.0	
10	2	BA1	David Miller	South Africa	NaN	32	BATSMAN	LHB	-	89.0	

In [ ]:
```
df.loc[(df["Batting"]=="LHB") & (df["Specialism"]=="WICKETKEEPER")]  # All
```

Out[68]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IP
26	4	WK1	Ishan Kishan	India	JSCA	23	WICKETKEEPER	LHB	-	61
27	4	WK1	Nicholas Pooran	West Indies	NaN	26	WICKETKEEPER	LHB	-	33
29	4	WK1	Matthew Wade	Australia	NaN	34	WICKETKEEPER	LHB	-	3
59	9	UWK1	Anuj Rawat	India	DDCA	22	WICKETKEEPER	LHB	-	2
141	26	UWK2	Luvnith Sisodia	India	KSCA	22	WICKETKEEPER	LHB	RIGHT ARM Off Spin	Na

In [ ]:
```
df.loc[(df["Batting"]=="LHB") & (df["Specialism"]=="WICKETKEEPER") & (df["C
```

Out[69]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
27	4	WK1	Nicholas Pooran	West Indies	NaN	26	WICKETKEEPER	LHB	-	33.0

In [ ]:
```
df.loc[(df["Batting"]=="LHB") & (df["Specialism"]=="Bowler") & (df["Country
```

Out[70]:

Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	Previo IPLTeam

In [ ]:
```
df.loc[(df["Batting"]=="RHB") & (df["Specialism"]=="BOWLER") & (df["Country
```

Out[71]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	77.0
30	5	FA1	Deepak Chahar	India	RCA	29	BOWLER	RHB	RIGHT ARM Fast Medium	63.0
33	5	FA1	Prasidh Krishna	India	KSCA	26	BOWLER	RHB	RIGHT ARM Fast	34.0
34	5	FA1	Bhuvneshwar Kumar	India	UPCA	32	BOWLER	RHB	RIGHT ARM Fast Medium	132.0
36	5	FA1	Shardul Thakur	India	MCA	30	BOWLER	RHB	RIGHT ARM Fast Medium	61.0

In [ ]:
```
df.loc[(df["Batting"]=="RHB") & (df["Specialism"]=="ALL-ROUNDER") & (df["Co
```

Out[72]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	IF
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.0	(
20	3	AL1	Harshal Patel	India	HCA	31	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	63.0	
50	8	UAL1	Deepak Hooda	India	RCA	26	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	80.0	
51	8	UAL1	Sarfaraz Khan	India	MCA	24	ALL-ROUNDER	RHB	RIGHT ARM Leg Spin	40.0	F
52	8	UAL1	Shahrukh Khan	India	TNCA	26	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	11.0	

In [ ]:
```
df.loc[(df["Batting"]=="RHB") & (df["Specialism"]=="ALL-ROUNDER") | (df["Co
```

Out[73]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	IF
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.0	(
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	RIGHT ARM Fast	37.0	
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.0	
6	1	M	Kagiso Rabada	South Africa	NaN	26	BOWLER	LHB	RIGHT ARM Fast	50.0	
10	2	BA1	David Miller	South Africa	NaN	32	BATSMAN	LHB	-	89.0	

In [ ]:
```
df.loc[(df["Batting"]=="LHB") & (df["Age"]<20)] #player with age leas then
```

Out[74]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
158	33	UAL4	Aneeshwar Gautam	India	KSCA	19	ALL-ROUNDER	LHB	LEFT ARM Slow Orthodox	NaN

In [ ]:
```
df.loc[(df["Batting"]=="RHB") & (df["Age"]<20)] #player with age leas then
```

Out[75]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling
42	7	UBA1	Dewald Brevis	South Africa	NaN	18	BATSMAN	RHB	RIGHT ARM Leg Spin
69	11	USP1	Noor Ahmad	Afghanistan	NaN	17	BOWLER	RHB	LEFT ARM Slow Unorthodox
98	17	UAL2	Yash Dhull	India	DDCA	19	ALL-ROUNDER	RHB	RIGHT ARM Off Spin
99	17	UAL2	Rajvardhan Hangargekar	India	MACA	19	ALL-ROUNDER	RHB	RIGHT ARM Fast
102	17	UAL2	Vicky Ostwal	India	MACA	19	ALL-ROUNDER	RHB	LEFT ARM Slow Orthodox
147	27	UFA3	Mayank Yadav	India	DDCA	19	BOWLER	RHB	RIGHT ARM Fast Medium
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	RIGHT ARM Fast Medium

In [ ]:
```
df.loc[(df["Country"]=="Afghanistan")] # All Players from Afghanistan
```

Out[76]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IP
69	11	USP1	Noor Ahmad	Afghanistan	NaN	17	BOWLER	RHB	LEFT ARM Slow Unorthodox	Na
128	22	FA3	Fazalhaq Farooqi	Afghanistan	NaN	21	BOWLER	RHB	LEFT ARM Fast Medium	Na

In [ ]:
```
df.loc[df["Player"].str.contains("U")] #Player containing U in their name
```

Out[77]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	I
14	2	BA1	Robin Uthappa	India	KCA	36	BATSMAN	RHB	-	193.0	
38	5	FA1	Umesh Yadav	India	VCA	34	BOWLER	RHB	RIGHT ARM Fast	121.0	KK
91	14	FA2	Jaydev Unadkat	India	SCA	30	BOWLER	RHB	LEFT ARM Fast Medium	86.0	DI

In [ ]:
```
df.loc[df["Player"].str.contains("s")].head(5)  #Player containing s in the
```

Out[14]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	I IPI
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.0	C
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	RIGHT ARM Fast	37.0	
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.0	R
5	1	M	Shreyas Iyer	India	MCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin	87.0	
6	1	M	Kagiso Rabada	South Africa	NaN	26	BOWLER	LHB	RIGHT ARM Fast	50.0	

In [ ]:
```
df.loc[df["Player"].str.contains("u")]  #Player containing u in their name
```

Out[78]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	I
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	
11	2	BA1	Devdutt Padikkal	India	KSCA	21	BATSMAN	LHB	
16	3	AL1	Wanindu Hasaranga	Sri Lanka	NaN	24	ALL-ROUNDER	RHB	

In [ ]:
```
df.loc[~(df["Player"].str.contains("s"))].head(5)    #not s in the name, to
```

Out[15]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	LEFT ARM Fast Medium	62.0
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RIGHT ARM Fast	77.0
8	1	M	David Warner	Australia	NaN	35	BATSMAN	LHB	-	150.0
9	2	BA1	Shimron Hetmyer	West Indies	NaN	25	BATSMAN	LHB	RIGHT ARM Leg Spin	31.0

In [ ]:
```
df.loc[df["Player"].str.startswith("U")] # Players name starts with U in the
```

Out[79]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	IP
38	5	FA1	Umesh Yadav	India	VCA	34	BOWLER	RHB	RIGHT ARM Fast	121.0	KKF

In [ ]:
```
df.loc[df["Player"].str.contains("D[a-z]*",regex=True)].head(5) # Use of reg
```

Out[82]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL	IP
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.0	
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.0	R
8	1	M	David Warner	Australia	NaN	35	BATSMAN	LHB	-	150.0	
10	2	BA1	David Miller	South Africa	NaN	32	BATSMAN	LHB	-	89.0	
11	2	BA1	Devdutt Padikkal	India	KSCA	21	BATSMAN	LHB	RIGHT ARM Off Spin	29.0	

In [ ]:
```
df.loc[df["Player"].str.contains("D[a-z]* C[a-z]*",regex=True)] # Use of re
```

Out[83]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
30	5	FA1	Deepak Chahar	India	RCA	29	BOWLER	RHB	RIGHT ARM Fast Medium	63.0
86	14	FA2	Dushmanta Chameera	Sri Lanka	NaN	30	BOWLER	RHB	RIGHT ARM Fast	0.0
111	19	BA3	Devon Conway	New Zealand	NaN	30	BATSMAN	LHB	RIGHT ARM Medium	NaN

In [ ]:
```
df.loc[df["Player"].str.contains("A[a-z]*",regex=True)].head(5) # Use of re
```

Out[4]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin
28	4	WK1	Ambati Rayudu	India	ACA	36	WICKETKEEPER	RHB	-
44	7	UBA1	Ashwin Hebbar	India	ACA	26	BATSMAN	RHB	RIGHT ARM Medium
45	7	UBA1	Abhinav Sadarangani	India	KSCA	27	BATSMAN	RHB	RIGHT ARM Leg Spin
46	7	UBA1	Anmolpreet Singh	India	PCA	24	BATSMAN	RHB	RIGHT ARM Off Spin

In [ ]:
```
#df.loc[df["Player"].str.contains("^\A[a-z]*",regex=True)].head(5) Not work
```

In [ ]:
```
df.loc[[df['Age']>30]['Country'=='India']]
```

Out[87]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bow
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RI ARM
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	L A Mec
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RI A Leg
7	1	M	Mohammad Shami	India	CAB	32	BOWLER	RHB	RI A

In [ ]:
```
df.loc[(df["Player"].str.contains("P[a-z]*",regex=True))&(df["Specialism"]==
```

Out[16]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling
27	4	WK1	Nicholas Pooran	West Indies	NaN	26	WICKETKEEPER	LHB	-
61	9	UWK1	Prabhsimran Singh	India	PCA	21	WICKETKEEPER	RHB	-
124	21	WK2	Glenn Phillips	New Zealand	NaN	25	WICKETKEEPER	RHB	RIGHT ARM Off Spin

In [ ]:
```
df.loc[(df["Batting"]=='LHB')&(df['Age']<20)] # Players with Batting style L
```

Out[17]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IPL
158	33	UAL4	Aneeshwar Gautam	India	KSCA	19	ALL-ROUNDER	LHB	LEFT ARM Slow Orthodox	NaN

In [ ]:
```
df.loc[df["Country"]=='Afghanistan'] # All Afghan Players
```

Out[18]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IP
69	11	USP1	Noor Ahmad	Afghanistan	NaN	17	BOWLER	RHB	LEFT ARM Slow Unorthodox	Na
128	22	FA3	Fazalhaq Farooqi	Afghanistan	NaN	21	BOWLER	RHB	LEFT ARM Fast Medium	Na

In [ ]:
```
df.sort_values(["Age"]) # shorting all value with respect to Age column
```

Out[19]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bov
69	11	USP1	Noor Ahmad	Afghanistan	NaN	17	BOWLER	RHB	LEFT Unorth
42	7	UBA1	Dewald Brevis	South Africa	NaN	18	BATSMAN	RHB	R ARM
99	17	UAL2	Rajvardhan Hangargekar	India	MACA	19	ALL-ROUNDER	RHB	R ARM
147	27	UFA3	Mayank Yadav	India	DDCA	19	BOWLER	RHB	R ARM Me
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	R ARM Me
...	...	...	...	...	...	...	...	...	
28	4	WK1	Ambati Rayudu	India	ACA	36	WICKETKEEPER	RHB	
14	2	BA1	Robin Uthappa	India	KCA	36	BATSMAN	RHB	
25	4	WK1	Dinesh Karthik	India	TNCA	36	WICKETKEEPER	RHB	
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	R ARM
15	3	AL1	Dwayne Bravo	West Indies	NaN	38	ALL-ROUNDER	RHB	R ARM Me

184 rows × 16 columns

In [ ]:
```
df.sort_values(["Age","Base Price"],ascending=(True,False)).head(10) #age a
```

Out[20]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bo
69	11	USP1	Noor Ahmad	Afghanistan	NaN	17	BOWLER	RHB	LEFT Unortl
42	7	UBA1	Dewald Brevis	South Africa	NaN	18	BATSMAN	RHB	R ARI
99	17	UAL2	Rajvardhan Hangargekar	India	MACA	19	ALL-ROUNDER	RHB	R ARM
98	17	UAL2	Yash Dhull	India	DDCA	19	ALL-ROUNDER	RHB	R AR
102	17	UAL2	Vicky Ostwal	India	MACA	19	ALL-ROUNDER	RHB	LEFT Ortl
147	27	UFA3	Mayank Yadav	India	DDCA	19	BOWLER	RHB	R ARM Me
158	33	UAL4	Aneeshwar Gautam	India	KSCA	19	ALL-ROUNDER	LHB	LEFT Ortl
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	R ARM Me
55	8	UAL1	Riyan Parag	India	ASCA	20	ALL-ROUNDER	RHB	R AR
140	26	UWK2	Aryan Juyal	India	UPCA	20	WICKETKEEPER	RHB	

In [ ]:
```
df.sort_values(["Age"],ascending=True) #by Default ascending is True
```

Out[21]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bov
69	11	USP1	Noor Ahmad	Afghanistan	NaN	17	BOWLER	RHB	LEFT Unorth
42	7	UBA1	Dewald Brevis	South Africa	NaN	18	BATSMAN	RHB	R ARM
99	17	UAL2	Rajvardhan Hangargekar	India	MACA	19	ALL-ROUNDER	RHB	R ARM
147	27	UFA3	Mayank Yadav	India	DDCA	19	BOWLER	RHB	R ARM Me
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	R ARM Me
...	...	...	...	...	...	...	...	...	
28	4	WK1	Ambati Rayudu	India	ACA	36	WICKETKEEPER	RHB	
14	2	BA1	Robin Uthappa	India	KCA	36	BATSMAN	RHB	
25	4	WK1	Dinesh Karthik	India	TNCA	36	WICKETKEEPER	RHB	
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	R ARM
15	3	AL1	Dwayne Bravo	West Indies	NaN	38	ALL-ROUNDER	RHB	R ARM Me

184 rows × 16 columns

In [ ]:
```
df['Age'].mean() # Finding the Average Age of all player that are present i
```

Out[22]:
```
27.10326086956522
```

In [ ]:
```
df["Age"].std() # Finding the Standard Deviations Age of all player that are
```

Out[23]:
```
4.428569717841512
```

In [ ]:
```
df.groupby(["Country"]).mean()
```

```
<ipython-input-24-0a0cdaba606e>:1: FutureWarning: The default value of num
eric_only in DataFrameGroupBy.mean is deprecated. In a future version, num
eric_only will default to False. Either specify numeric_only or select onl
y columns which should be valid for the function.
  df.groupby(["Country"]).mean()
```

Out[24]:

Country	Set No.	Age	IPL
Afghanistan	16.500000	19.000000	NaN
Australia	14.916667	30.000000	23.500000
Bangladesh	5.000000	26.000000	38.000000
England	15.727273	30.909091	14.600000
India	19.286885	26.467213	44.386364
New Zealand	17.454545	29.000000	17.555556
South Africa	8.000000	27.714286	49.400000
Sri Lanka	17.500000	25.000000	1.000000
West Indies	17.785714	27.214286	27.600000

In [ ]:
```
df.groupby(["Country"]).mean()["Age"]
```

```
<ipython-input-25-92e89e9ace33>:1: FutureWarning: The default value of num
eric_only in DataFrameGroupBy.mean is deprecated. In a future version, num
eric_only will default to False. Either specify numeric_only or select onl
y columns which should be valid for the function.
  df.groupby(["Country"]).mean()["Age"]
```

Out[25]:
```
Country
Afghanistan     19.000000
Australia       30.000000
Bangladesh      26.000000
England         30.909091
India           26.467213
New Zealand     29.000000
South Africa    27.714286
Sri Lanka       25.000000
West Indies     27.214286
Name: Age, dtype: float64
```

In [ ]:
```
df.groupby(["Country"]).sum()
```

```
<ipython-input-26-163f00d51074>:1: FutureWarning: The default value of num
eric_only in DataFrameGroupBy.sum is deprecated. In a future version, nume
ric_only will default to False. Either specify numeric_only or select only
columns which should be valid for the function.
  df.groupby(["Country"]).sum()
```

Out[26]:

Country	Set No.	Age	IPL
Afghanistan	33	38	0.0
Australia	179	360	282.0
Bangladesh	5	26	38.0
England	173	340	146.0
India	2353	3229	3906.0
New Zealand	192	319	158.0
South Africa	56	194	247.0
Sri Lanka	70	100	2.0
West Indies	249	381	276.0

In [ ]:
```
df.groupby(["Country"]).sum().sort_values("Age",ascending=False)
```

```
<ipython-input-27-9cd9336694aa>:1: FutureWarning: The default value of num
eric_only in DataFrameGroupBy.sum is deprecated. In a future version, nume
ric_only will default to False. Either specify numeric_only or select only
columns which should be valid for the function.
  df.groupby(["Country"]).sum().sort_values("Age",ascending=False)
```

Out[27]:

Country	Set No.	Age	IPL
India	2353	3229	3906.0
West Indies	249	381	276.0
Australia	179	360	282.0
England	173	340	146.0
New Zealand	192	319	158.0
South Africa	56	194	247.0
Sri Lanka	70	100	2.0
Afghanistan	33	38	0.0
Bangladesh	5	26	38.0

In [ ]:
```
df.groupby(["Country"]).count().sort_values("Player",ascending=False)
```

Out[28]:

Country	Set No.	Set Name	Player	State Association	Age	Specialism	Batting	Bowling	IPL	Prev IPLTea
India	122	122	122	122	122	122	122	122	88	
West Indies	14	14	14	0	14	14	14	14	10	
Australia	12	12	12	0	12	12	12	12	12	
England	11	11	11	0	11	11	11	11	10	
New Zealand	11	11	11	0	11	11	11	11	9	
South Africa	7	7	7	0	7	7	7	7	5	
Sri Lanka	4	4	4	0	4	4	4	4	2	
Afghanistan	2	2	2	0	2	2	2	2	0	
Bangladesh	1	1	1	0	1	1	1	1	1	

In [ ]:
```
df["Total"]=df["Age"]+df["IPL"]
```

In [ ]:
```
df
```

Out[30]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IP
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	LEFT ARM Fast Medium	62.
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	RIGHT ARM Fast	37.
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.
...	...	...	...	...	...	...	...	...	...	.
179	53	UAL8	Ansh Patel	India	BCA	20	ALL-ROUNDER	RHB	LEFT ARM Slow Unorthodox	Na
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	RIGHT ARM Fast Medium	Na
181	57	UAL10	Arjun Tendulkar	India	MCA	22	ALL-ROUNDER	LHB	LEFT ARM Fast Medium	0.
182	59	UAL12	Shubham Garhwal	India	RCA	26	ALL-ROUNDER	LHB	LEFT ARM Slow Orthodox	Na
183	60	UAL13	Anunay Singh	India	BICA	29	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	Na

184 rows × 17 columns

In [ ]:
```
df=df.drop(columns=["New Franchise"])
```

In [ ]:
```
df
```

Out[32]:

	Set No.	Set Name	Player	Country	State Association	Age	Specialism	Batting	Bowling	IP
0	1	M	R Ashwin	India	TNCA	35	ALL-ROUNDER	RHB	RIGHT ARM Off Spin	167.
1	1	M	Trent Boult	New Zealand	NaN	32	BOWLER	RHB	LEFT ARM Fast Medium	62.
2	1	M	Pat Cummins	Australia	NaN	28	ALL-ROUNDER	RHB	RIGHT ARM Fast	37.
3	1	M	Shikhar Dhawan	India	DDCA	36	BATSMAN	LHB	-	192.
4	1	M	Faf Du Plessis	South Africa	NaN	37	BATSMAN	RHB	RIGHT ARM Leg Spin	100.
...	...	...	...	...	...	...	...	...	...	.
179	53	UAL8	Ansh Patel	India	BCA	20	ALL-ROUNDER	RHB	LEFT ARM Slow Unorthodox	Na
180	54	UFA8	Ashok Sharma	India	RCA	19	BOWLER	RHB	RIGHT ARM Fast Medium	Na
181	57	UAL10	Arjun Tendulkar	India	MCA	22	ALL-ROUNDER	LHB	LEFT ARM Fast Medium	0.
182	59	UAL12	Shubham Garhwal	India	RCA	26	ALL-ROUNDER	LHB	LEFT ARM Slow Orthodox	Na
183	60	UAL13	Anunay Singh	India	BICA	29	ALL-ROUNDER	RHB	RIGHT ARM Fast Medium	Na

184 rows × 16 columns

In [ ]:
```
newdf=df.to_csv("shashank_ipl.csv")
```

In [ ]:
```
df2=df.to_csv("kritika.txt")
```