```python
# indexing and selecting data with pandas
# select a single colum
import pandas as pd
data = pd.read_csv(r"C:\Users\mohap\nba.csv",index_col="Name")
print("Dataset")
display(data.head(5))
# select a sin column
first = data['Age']
print("\n Single column selected from dataset")        # head- by deaf
display(first.head(5))                    # tail(3)- by deafault last 5 rows
```

Dataset

	Team	Number	Position	Age	Height	Weight	College	Salary
Name								
Avery Bradley	Boston Celtics	0.0	PG	25.0	6-2	180.0	Texas	7730337.0
Jae Crowder	Boston Celtics	99.0	SF	25.0	6-6	235.0	Marquette	6796117.0
John Holland	Boston Celtics	30.0	SG	27.0	6-5	205.0	Boston University	NaN
R.J. Hunter	Boston Celtics	28.0	SG	22.0	6-5	185.0	Georgia State	1148640.0
Jonas Jerebko	Boston Celtics	8.0	PF	29.0	6-10	231.0	NaN	5000000.0

```
 Single column selected from dataset
Name
Avery Bradley    25.0
Jae Crowder      25.0
John Holland     27.0
R.J. Hunter      22.0
Jonas Jerebko    29.0
Name: Age, dtype: float64
```

```python
first = data[['Age','College','Salary']]
print("\n multiple columns")
display(first.head(5))
```

multiple columns

	Age	College	Salary
Name			
Avery Bradley	25.0	Texas	7730337.0
Jae Crowder	25.0	Marquette	6796117.0
John Holland	27.0	Boston University	NaN
R.J. Hunter	22.0	Georgia State	1148640.0
Jonas Jerebko	29.0	NaN	5000000.0

In [7]:
```python
# single row label
data = pd.read_csv(r"C:\Users\mohap\nba.csv",index_col="Name")
row = data.loc['Avery Bradley']
print(row)
```

```
Team         Boston Celtics
Number                  0.0
Position                 PG
Age                    25.0
Height                  6-2
Weight                180.0
College               Texas
Salary            7730337.0
Name: Avery Bradley, dtype: object
```

In [9]:
```python
# selcting multiple rows    by label
rows = data.loc[['Avery Bradley','R.J. Hunter']]  # loc[]
print(rows)
```

```
                          Team  Number Position   Age Height  Weight  \
Name
Avery Bradley   Boston Celtics     0.0       PG  25.0    6-2   180.0
R.J. Hunter     Boston Celtics    28.0       SG  22.0    6-5   185.0

                      College       Salary
Name
Avery Bradley           Texas    7730337.0
R.J. Hunter     Georgia State    1148640.0
```

In [11]:
```python
#select specific row and column
selection = data.loc[['Avery Bradley','R.J. Hunter'],['Team','Number','Position']]
print(selection)
```

```
                          Team  Number Position
Name
Avery Bradley   Boston Celtics     0.0       PG
R.J. Hunter     Boston Celtics    28.0       SG
```

In [13]:
```python
# selecting all rowsandspecific column
all_rows_specific_columns = data.loc[:,["Team",'Position','Salary']]
print(all_rows_specific_columns)
```

```
                     Team Position      Salary
Name
Avery Bradley   Boston Celtics       PG  7730337.0
Jae Crowder     Boston Celtics       SF  6796117.0
John Holland    Boston Celtics       SG        NaN
R.J. Hunter     Boston Celtics       SG  1148640.0
Jonas Jerebko   Boston Celtics       PF  5000000.0
...                        ...      ...        ...
Shelvin Mack        Utah Jazz       PG  2433333.0
Raul Neto           Utah Jazz       PG   900000.0
Tibor Pleiss        Utah Jazz        C  2900000.0
Jeff Withey         Utah Jazz        C   947276.0
NaN                       NaN      NaN        NaN

[458 rows x 3 columns]
```

In [17]:
```python
# select with a single row by position
data = pd.read_csv(r"C:\Users\mohap\nba.csv",index_col="Name")
row = data.iloc[3]
print(row)
```

```
Team          Boston Celtics
Number                  28.0
Position                  SG
Age                     22.0
Height                   6-5
Weight                 185.0
College        Georgia State
Salary             1148640.0
Name: R.J. Hunter, dtype: object
```

In [19]:
```python
# mutiple rows  by passing a list of integer position
rows = data.iloc[[3,5,7]]  # -> index count from 0
print(rows)
```

```
                     Team  Number Position   Age Height  Weight  \
Name
R.J. Hunter   Boston Celtics    28.0       SG  22.0    6-5   185.0
Amir Johnson  Boston Celtics    90.0       PF  29.0    6-9   240.0
Kelly Olynyk  Boston Celtics    41.0        C  25.0    7-0   238.0

                    College       Salary
Name
R.J. Hunter   Georgia State    1148640.0
Amir Johnson            NaN   12000000.0
Kelly Olynyk        Gonzaga    2165160.0
```

In [21]:
```python
#specific row and column by position
selection = data.iloc[[3,4],[1,2]]
print(selection)
```

```
               Number Position
Name
R.J. Hunter      28.0       SG
Jonas Jerebko     8.0       PF
```

```
In [23]:  # selecting all rows and specific column
          selection = data.iloc[:,[1,2]]
          print(selection)
```

```
                Number Position
Name
Avery Bradley     0.0       PG
Jae Crowder      99.0       SF
John Holland     30.0       SG
R.J. Hunter      28.0       SG
Jonas Jerebko     8.0       PF
...               ...      ...
Shelvin Mack      8.0       PG
Raul Neto        25.0       PG
Tibor Pleiss     21.0        C
Jeff Withey      24.0        C
NaN               NaN      NaN

[458 rows x 2 columns]
```

```
In [25]:  #
          print(data.head())
```

```
                        Team  Number Position   Age Height  Weight  \
Name
Avery Bradley  Boston Celtics     0.0       PG  25.0    6-2   180.0
Jae Crowder    Boston Celtics    99.0       SF  25.0    6-6   235.0
John Holland   Boston Celtics    30.0       SG  27.0    6-5   205.0
R.J. Hunter    Boston Celtics    28.0       SG  22.0    6-5   185.0
Jonas Jerebko  Boston Celtics     8.0       PF  29.0   6-10   231.0

                        College      Salary
Name
Avery Bradley             Texas   7730337.0
Jae Crowder           Marquette   6796117.0
John Holland    Boston University        NaN
R.J. Hunter       Georgia State   1148640.0
Jonas Jerebko               NaN   5000000.0
```

```
In [27]:  print(data.tail(3))
```

```
                  Team  Number Position   Age Height  Weight College  \
Name
Tibor Pleiss  Utah Jazz    21.0        C  26.0    7-3   256.0     NaN
Jeff Withey   Utah Jazz    24.0        C  26.0    7-0   231.0  Kansas
NaN                 NaN     NaN      NaN   NaN    NaN     NaN     NaN

                 Salary
Name
Tibor Pleiss  2900000.0
Jeff Withey    947276.0
NaN                 NaN
```

```
In [29]:  # at[]
          value = data.at["Avery Bradley",'Age']
          print(value)
```

```
25.0
```

In [35]:
```python
# query ()
result = data.query("Age >25 and College == 'Duke'")
print(result)
```

	Team	Number	Position	Age	Height
Name					
Lance Thomas	New York Knicks	42.0	SF	28.0	6-8
Elton Brand	Philadelphia 76ers	42.0	PF	37.0	6-9
JJ Redick	Los Angeles Clippers	4.0	SG	31.0	6-4
Mike Dunleavy	Chicago Bulls	34.0	SG	35.0	6-9
Dahntay Jones	Cleveland Cavaliers	30.0	SG	35.0	6-6
Miles Plumlee	Milwaukee Bucks	18.0	C	27.0	6-11
Luol Deng	Miami Heat	9.0	SF	31.0	6-9
Josh McRoberts	Miami Heat	4.0	PF	29.0	6-10
Kyle Singler	Oklahoma City Thunder	5.0	SF	28.0	6-8
Gerald Henderson	Portland Trail Blazers	9.0	SG	28.0	6-5
Mason Plumlee	Portland Trail Blazers	24.0	C	26.0	6-11

	Weight	College	Salary
Name			
Lance Thomas	235.0	Duke	1636842.0
Elton Brand	254.0	Duke	NaN
JJ Redick	190.0	Duke	7085000.0
Mike Dunleavy	230.0	Duke	4500000.0
Dahntay Jones	225.0	Duke	NaN
Miles Plumlee	249.0	Duke	2109294.0
Luol Deng	220.0	Duke	10151612.0
Josh McRoberts	240.0	Duke	5543725.0
Kyle Singler	228.0	Duke	4500000.0
Gerald Henderson	215.0	Duke	6000000.0
Mason Plumlee	235.0	Duke	1415520.0

In [ ]: