In [1]:
```
import pandas as pd
import numpy as np
```

In [2]:
```
df = pd.read_csv('coronadata.csv')
df
```

Out[2]:

	Location	Cases	Deaths	Recov
0	United States[f]	33416364	600067	No data
1	India	27729247	322512	25178011
2	Brazil	16471600	461142	14869696
3	France[g]	5657572	109387	No data
4	Turkey[h]	5235978	47271	5094279
...	...	...	...	...
237	Samoa	4	0	2
238	Vanuatu	3	0	3
239	Kiribati	2	0	0
240	Federated States of Micronesia	1	0	1
241	Tanzania[be]	No data	No data	No data

242 rows × 4 columns

In [3]:
```
df1 = df.replace('No data',np.nan)
df1
```

Out[3]:

	Location	Cases	Deaths	Recov
0	United States[f]	33416364	600067	NaN
1	India	27729247	322512	25178011
2	Brazil	16471600	461142	14869696
3	France[g]	5657572	109387	NaN
4	Turkey[h]	5235978	47271	5094279
...	...	...	...	...
237	Samoa	4	0	2
238	Vanuatu	3	0	3
239	Kiribati	2	0	0
240	Federated States of Micronesia	1	0	1
241	Tanzania[be]	NaN	NaN	NaN

242 rows × 4 columns

In [4]:
```
df2 = df1.fillna('0')
```

In [5]:
```
df2['Deaths'] = df2['Deaths'].replace(["60+"],'60')
```

In [6]:
```
print(df2.Deaths[182])
```

```
60
```

In [7]:
```
cols = ['Cases','Deaths','Recov']
df2[cols] = df2[cols].apply(pd.to_numeric, errors='coerce', axis=1)
```

In [8]:
```
df2
```

Out[8]:

	Location	Cases	Deaths	Recov
0	United States[f]	33416364	600067	0
1	India	27729247	322512	25178011
2	Brazil	16471600	461142	14869696
3	France[g]	5657572	109387	0
4	Turkey[h]	5235978	47271	5094279
...	...	...	...	...
237	Samoa	4	0	2
238	Vanuatu	3	0	3
239	Kiribati	2	0	0
240	Federated States of Micronesia	1	0	1
241	Tanzania[be]	0	0	0

242 rows × 4 columns

In [9]:
```
type(df2.Cases[0])
```

Out[9]:
```
numpy.int64
```

In [10]:
```
df3 = df2.interpolate()
df3
```

Out[10]:

	Location	Cases	Deaths	Recov
0	United States[f]	33416364	600067	0
1	India	27729247	322512	25178011
2	Brazil	16471600	461142	14869696
3	France[g]	5657572	109387	0
4	Turkey[h]	5235978	47271	5094279
...	...	...	...	...
237	Samoa	4	0	2
238	Vanuatu	3	0	3
239	Kiribati	2	0	0
240	Federated States of Micronesia	1	0	1
241	Tanzania[be]	0	0	0

242 rows × 4 columns

In [11]:
```
df2 = df2.replace(0,np.nan)
df2
```

Out[11]:

	Location	Cases	Deaths	Recov
0	United States[f]	33416364.0	600067.0	NaN
1	India	27729247.0	322512.0	25178011.0
2	Brazil	16471600.0	461142.0	14869696.0
3	France[g]	5657572.0	109387.0	NaN
4	Turkey[h]	5235978.0	47271.0	5094279.0
...	...	...	...	...
237	Samoa	4.0	NaN	2.0
238	Vanuatu	3.0	NaN	3.0
239	Kiribati	2.0	NaN	NaN
240	Federated States of Micronesia	1.0	NaN	1.0
241	Tanzania[be]	NaN	NaN	NaN

242 rows × 4 columns

In [12]:
```
df3 = df2.interpolate()
df3
```

Out[12]:

	Location	Cases	Deaths	Recov
0	United States[f]	33416364.0	600067.0	NaN
1	India	27729247.0	322512.0	25178011.0
2	Brazil	16471600.0	461142.0	14869696.0
3	France[g]	5657572.0	109387.0	9981987.5
4	Turkey[h]	5235978.0	47271.0	5094279.0
...	...	...	...	...
237	Samoa	4.0	3.0	2.0
238	Vanuatu	3.0	3.0	3.0
239	Kiribati	2.0	3.0	2.0
240	Federated States of Micronesia	1.0	3.0	1.0
241	Tanzania[be]	1.0	3.0	1.0

242 rows × 4 columns

In [13]:
```
df4 = df3.fillna(method='bfill')
df4
```

Out[13]:

	Location	Cases	Deaths	Recov
0	United States[f]	33416364.0	600067.0	25178011.0
1	India	27729247.0	322512.0	25178011.0
2	Brazil	16471600.0	461142.0	14869696.0

	Location	Cases	Deaths	Recov
3	France[g]	5657572.0	109387.0	9981987.5
4	Turkey[h]	5235978.0	47271.0	5094279.0
...	...	...	...	...
237	Samoa	4.0	3.0	2.0
238	Vanuatu	3.0	3.0	3.0
239	Kiribati	2.0	3.0	2.0
240	Federated States of Micronesia	1.0	3.0	1.0
241	Tanzania[be]	1.0	3.0	1.0

242 rows × 4 columns

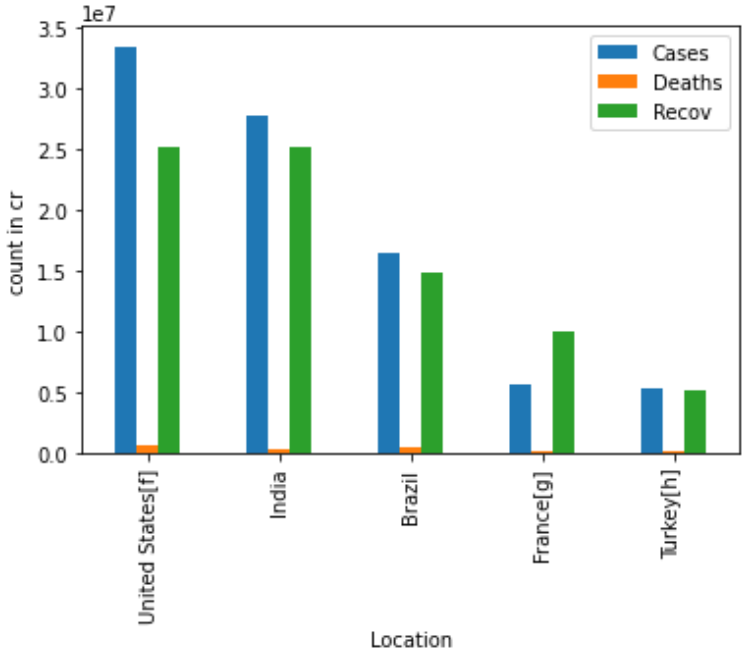
In [18]:
```
df4 = df4.set_index('Location')
df4
```

Out[18]:

Location	Cases	Deaths	Recov
United States[f]	33416364.0	600067.0	25178011.0
India	27729247.0	322512.0	25178011.0
Brazil	16471600.0	461142.0	14869696.0
France[g]	5657572.0	109387.0	9981987.5
Turkey[h]	5235978.0	47271.0	5094279.0
...	...	...	...
Samoa	4.0	3.0	2.0
Vanuatu	3.0	3.0	3.0
Kiribati	2.0	3.0	2.0
Federated States of Micronesia	1.0	3.0	1.0
Tanzania[be]	1.0	3.0	1.0

242 rows × 3 columns

In [24]:
```
from matplotlib import pyplot as plt
df4[0:5].plot(kind='bar')
plt.ylabel('count in cr')
plt.legend()
plt.show()
```


1e7
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
count in cr
Cases
Deaths
Recov
United States[f]
India
Brazil
France[g]
Turkey[h]
Location

In [ ]:

In [ ]:

In [ ]: