Pandas_DataFrame_RadiusCentre

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

In [2]:
```
N = 301
recon_len = 70
delta = N/recon_len
```

In [3]:
```
data1 = pd.read_table("resultspc1.dat",sep=",")
data2 = pd.read_table("resultspc2.dat",sep=",")
alldat = data1.append(data2)

alldat['mag'] = alldat.name.apply(lambda x : float(x.split("_")[1]))
alldat['exp'] = alldat.name.apply(lambda x : float(x.split("_")[2]))
alldat['Soffset'] = alldat.name.apply(lambda x : 1.0 if x.split("_")[4][1] == '1' else 0.0)
alldat['Doffset'] = alldat.name.apply(lambda x : 1.0 if x.split("_")[3][1] == '1' else 0.0)

alldat['R'] = alldat['R']/delta
alldat['x'] = -35+alldat['x']/delta
alldat['y'] = -35+alldat['y']/delta
alldat['z'] = -35+alldat['z']/delta

alldat['relerrR'] = alldat['R'].apply(lambda x: np.abs(x-30)/30)
```

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

Out[4]:

	R	x	y	z	name	mag	exp	Soffset	Doffset	relerrR
0	29.914133	0.164897	0.164897	0.116279	vox_1.5_1_D0_S0.mat	1.5	1	0	0	0.002862
1	29.895642	0.164758	0.164776	0.118824	vox_1.5_1_D0_S1.mat	1.5	1	1	0	0.003479
2	29.880377	0.164863	0.164747	0.115755	vox_1.5_1_D1_S0.mat	1.5	1	0	1	0.003987
3	29.876217	0.165611	0.165813	0.117365	vox_1.5_1_D1_S1.mat	1.5	1	1	1	0.004126
4	29.914133	0.164897	0.164897	0.116279	vox_1.5_2_D0_S0.mat	1.5	2	0	0	0.002862

In [5]:
```
alldat.to_pickle('RadiusCentre.p')
```

In [6]:
```
extradat1 = pd.read_table("extraresultsD1S0.dat",sep=",")
extradat2 = pd.read_table("extraresultsD0S1.dat",sep=",")

allextradat = extradat1.append(extradat2)
```

```
        allextradat['mag'] = allextradat.name.apply(lambda x : float(x.split("_")[1]))
        allextradat['exp'] = allextradat.name.apply(lambda x : float(x.split("_")[2]) + 10)
        allextradat['Soffset'] = allextradat.name.apply(lambda x : 1.0 if x.split("_")[4][1] == '1' \
                                                        else 0.0)
        allextradat['Doffset'] = allextradat.name.apply(lambda x : 1.0 if x.split("_")[3][1] == '1' \
                                                        else 0.0)

        allextradat['R'] = allextradat['R']/delta
        allextradat['x'] = -35+allextradat['x']/delta
        allextradat['y'] = -35+allextradat['y']/delta
        allextradat['z'] = -35+allextradat['z']/delta

        alldat2 = alldat
        alldat2 = alldat2.append(allextradat)

In [7]: alldat2.to_pickle('RadiusCentreExtraSamples.p')

In [8]: mags = alldat.mag.unique()
        extrasamplesdat2 = alldat2[(alldat2.mag == mags[0]) | (alldat2.mag == mags[2]) | \
                                   (alldat2.mag == mags[-1])]
        extrasamplesdat2.to_pickle('JustExtraSamples.p')
```