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

In [2]:
```
#declare base directories and subfolder
base='C:/Users/Phil/Box Sync/Boorman Lab/Experiments/Latent-Learning/Behavi
oral Data'
run=7
data_dir=os.path.join(base, 'Run '+str(run))
```

In [4]:
```
#load all csvs into a list of dataframe for easy concatornation
dats=[pd.read_csv(os.path.join(data_dir, k)) for k in os.listdir(data_dir)
if 'LTR_Task.csv' in k]
daters=pd.concat(dats)

#check to ensure all elements are in contonated df
print(daters.size == np.sum([l.size for l in dats]))
```

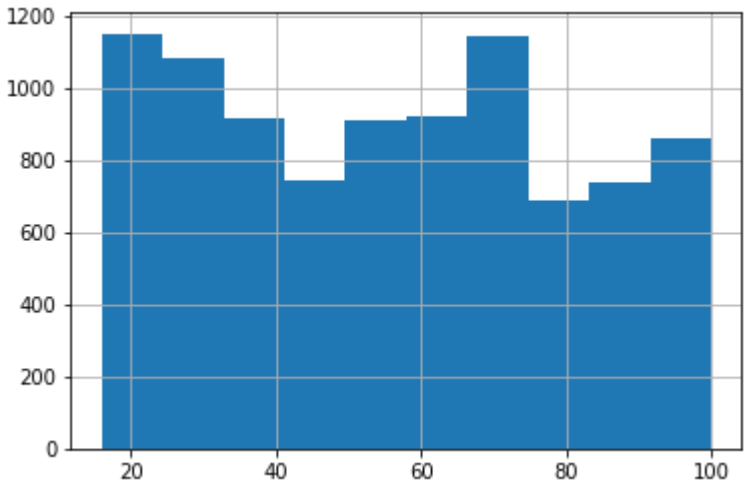
```
True
```

In [5]:
```
#bin magitute difference scores so we can average RT
daters['magDiff']=np.abs(daters['O1_reward']-daters['O2_reward'])

#histogram to look at the distributions and ensure we apply appropriate cut
ting
daters['magDiff'].hist()

bins=np.arange(0,1.2, .2)
bin_labels=np.arange(1, len(bins))

daters['magDiffBins']=pd.qcut(daters['magDiff'], bins, labels=bin_labels)
```



In [6]:
```
rt_means=daters.groupby(['PAR', 'magDiffBins'], as_index=False)['Res_time']
.mean()
```

In [7]:
```
# plot reaction as a function of Magnitude difference quantile
g = sbn.lmplot(x="magDiffBins", y="Res_time",
               truncate=True, size=5, data=rt_means)
g.set_axis_labels("Difference in Magnitudes Quantile", "Reaction Time")
```

Out[7]: <seaborn.axisgrid.FacetGrid at 0xe9667b0>