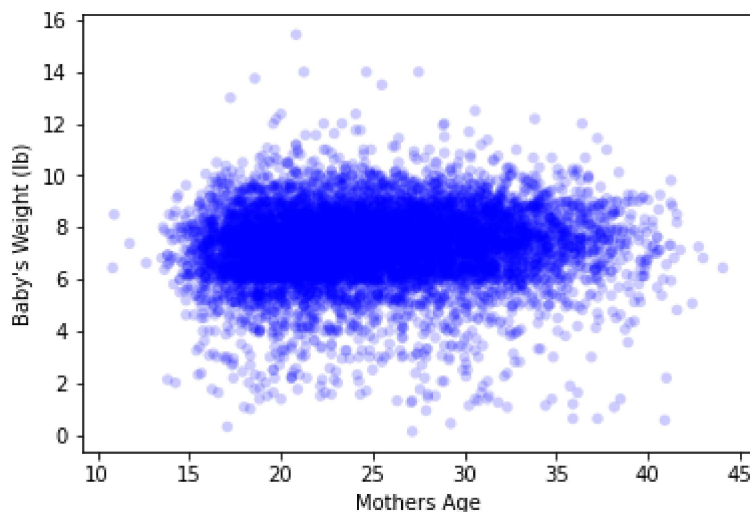


```
In [1]: # DSC530-T302
# Stephen Smitshoek
# Week06
# Exercise 7-1
```

```
In [2]: import first
import thinkplot
import thinkstats2
import numpy as np
```

```
In [3]: live, firsts, others = first.MakeFrames()
live = live.dropna(subset=['agepreg', 'totalwgt_lb'])
```

```
In [4]: thinkplot.Scatter(live.agepreg, live.totalwgt_lb)
thinkplot.Show(xlabel="Mothers Age", ylabel="Baby's Weight (lb)")
```



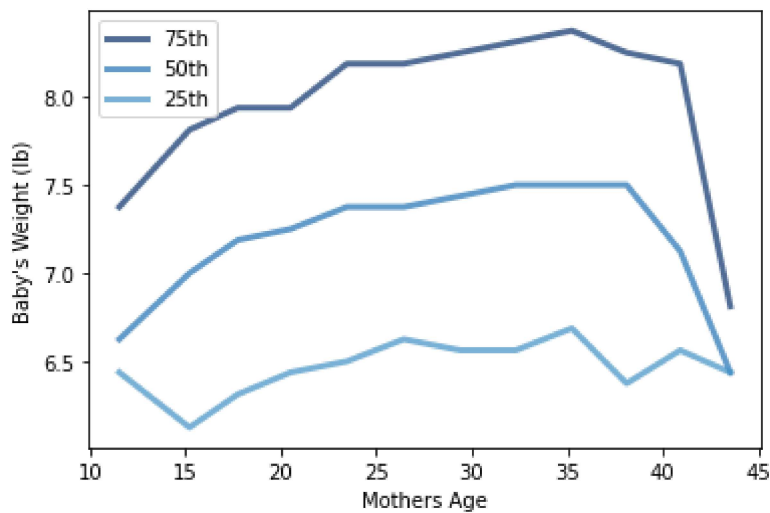
<Figure size 576x432 with 0 Axes>

```
In [5]: bins = np.arange(10, 49, 3)
indices = np.digitize(live.agepreg, bins)
groups = live.groupby(indices)

ages = [group.agepreg.mean() for i, group in groups]
cdfs = [thinkstats2.Cdf(group.totalwgt_lb) for i, group in groups]

for percent in [75, 50, 25]:
    weights = [cdf.Percentile(percent) for cdf in cdfs]
    label = '{}th'.format(percent)
    thinkplot.Plot(ages, weights, label=label)

thinkplot.Show(xlabel="Mothers Age", ylabel="Baby's Weight (lb)")
```



<Figure size 576x432 with 0 Axes>

```
In [6]: pearson = thinkstats2.Corr(live.agepreg, live.totalwgt_lb)
print('The Pearson correlation factor is {}'.format(round(pearson, 3)))
```

The Pearson correlation factor is 0.069

```
In [7]: spearman = thinkstats2.SpearmanCorr(live.agepreg, live.totalwgt_lb)
print('The Dpearman correlation factor is {}'.format(round(spearman, 3)))
```

The Dpearman correlation factor is 0.095

```
In [8]: print("There seems to be no correlation between the mothers age and the baby's weight.
            "\nNeither the correlations or the plots show any strong tendency for one variab
```

There seems to be no correlation between the mothers age and the baby's weight.
Neither the correlations or the plots show any strong tendency for one variable to effect the other