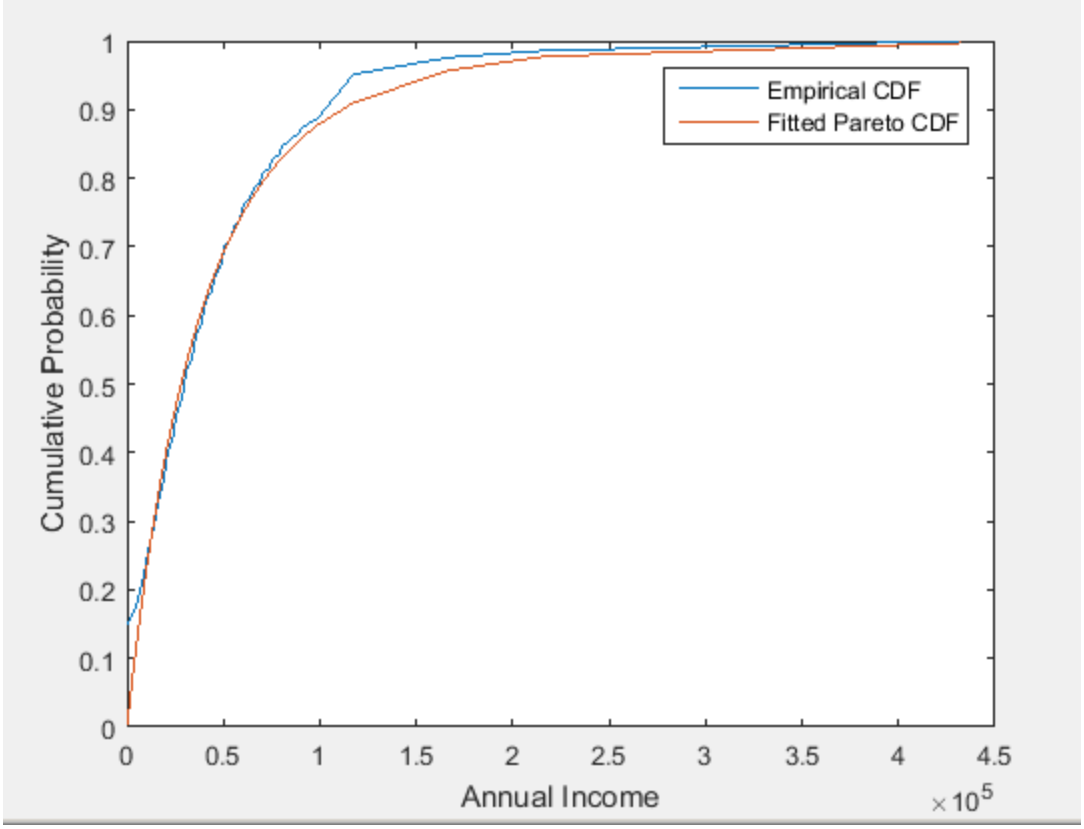
MATLAB Homework 2

1a. 67%

1b. 0.0239

2.




```
data = xlsread('pinc11_1.xls');
total_people = data(1,1);
num_people = data(2:end,1);
probabilities =  num_people./total_people;
mean_incomes = data(2:end,2);
cdf = cumsum(probabilities);

paramhat = mle(mean_incomes, 'distribution', 'gp', 'frequency', num_people);
y = gpcdf(mean_incomes,paramhat(1),paramhat(2),0);
plot(mean_incomes,cdf,mean_incomes,y);
xlabel('Annual Income');
ylabel('Cumulative Probability');
legend({'Empirical CDF' 'Fitted Pareto CDF'});
```

3a.

```
expectation_X_pareto =

   4.7400e+04
```

3b.

```
variance_X_pareto =

   3.8295e+09
```

3c.

```
median =

   2.8024e+04
```

3d. The answers are pretty close.

3e. 4740000000000

3f.

4a. Below is the mean, variance, and median, respectively. They match up closely with the calculated values.

```
ans =

   4.7379e+04


ans =

   3.6789e+09


ans =

   2.8300e+04
```

4b. 4737.9

4c.1718.3

4d.8313.4

Matlab homework 3

1a. 0.127048134

1b. 0.52979434