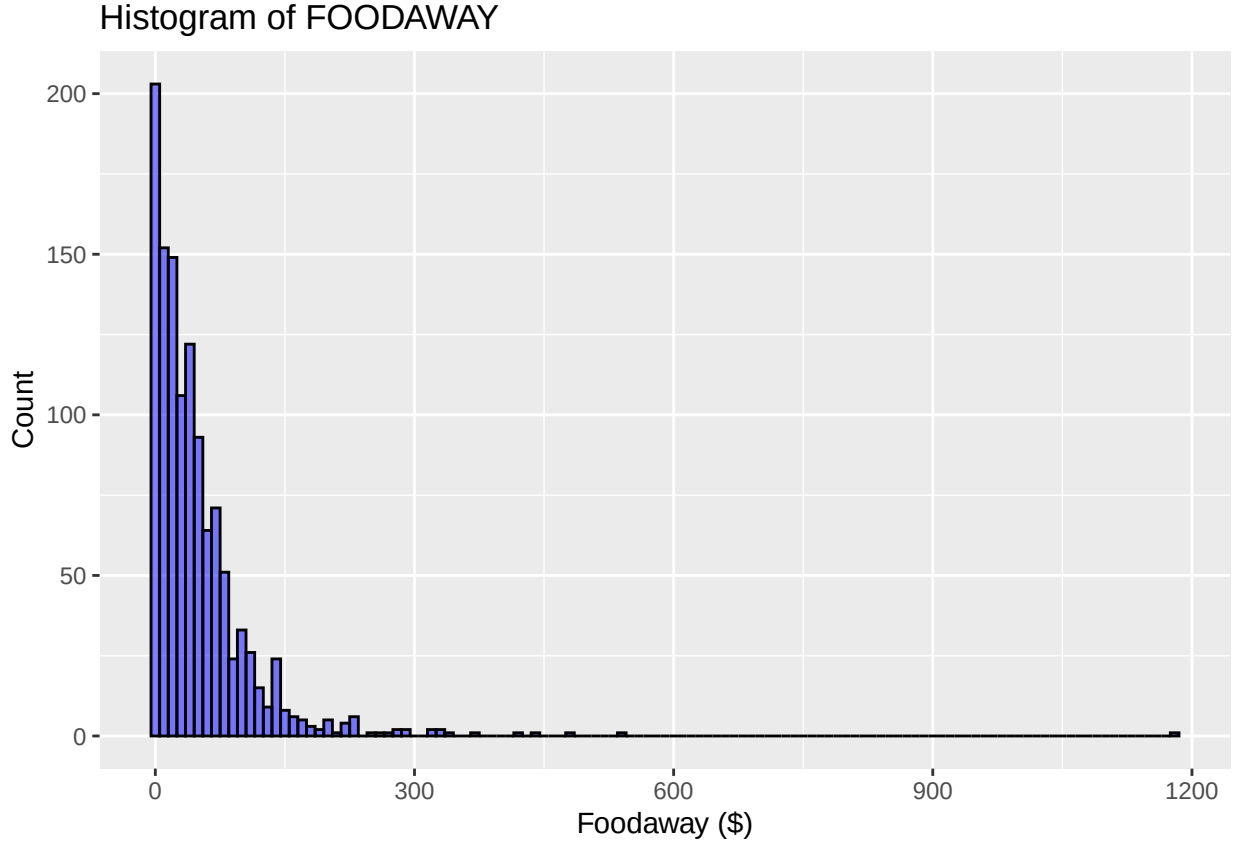
hw2q25

313707025 jebuhdah

2025-03-10

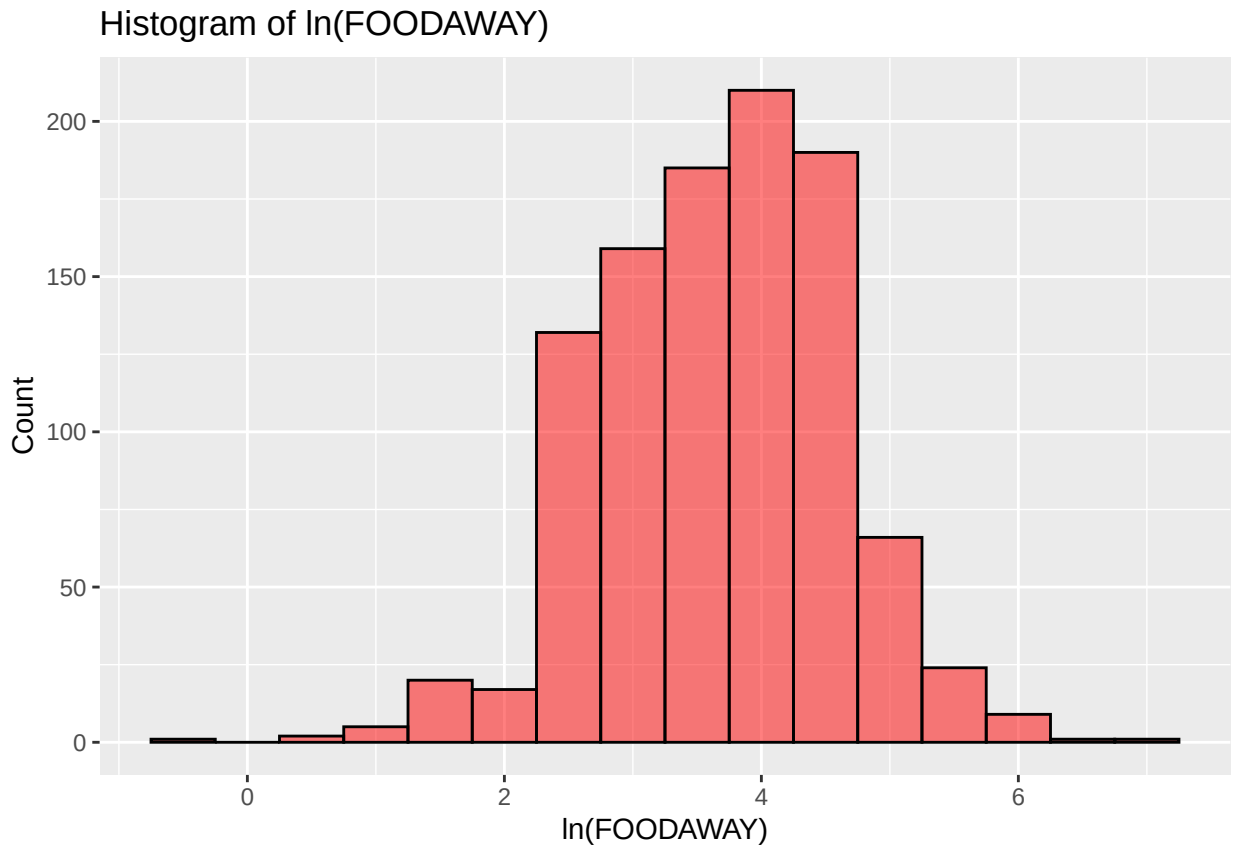
```
'##################################################################
```




```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
##    0.00   12.04   32.55   49.27   67.50 1179.00

##     25%     75%
## 12.0400 67.5025

## # A tibble: 3 x 5
##   advanced college no_degree mean_foodaway median_foodaway
##      <int>   <int>     <int>         <dbl>           <dbl>
## 1        0       0         1          39.0            26.0
## 2        0       1         0          48.6            36.1
## 3        1       0         0          73.2            48.2
```

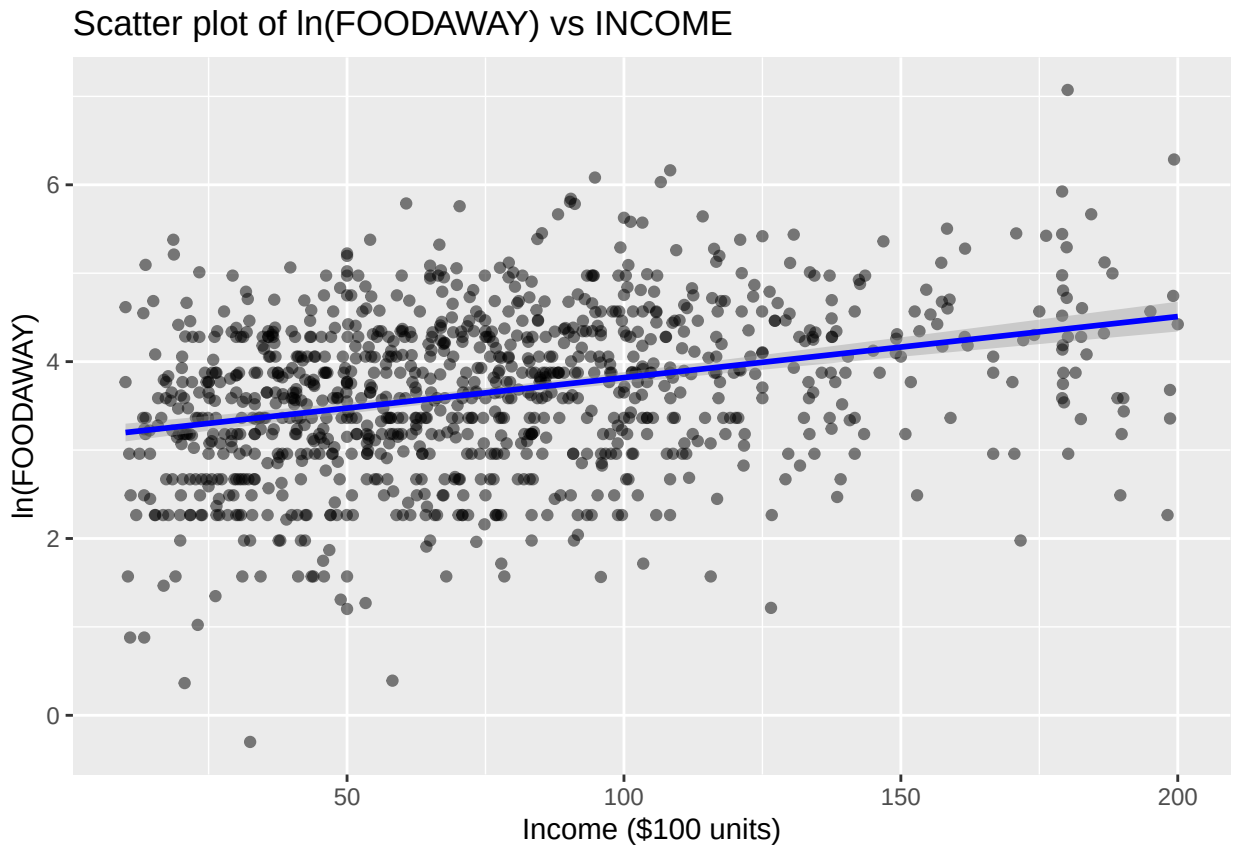


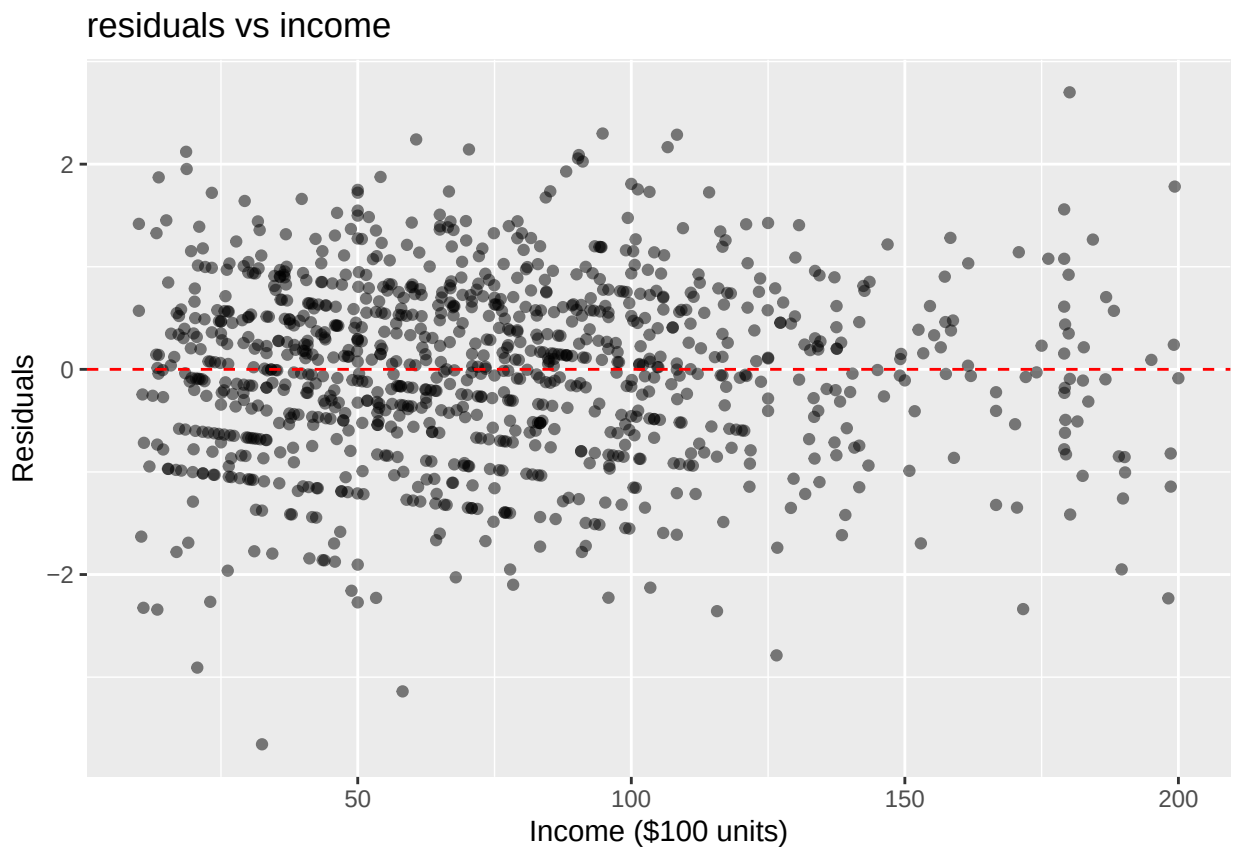

```
##    Min. 1st Qu.  Median    Mean 3rd Qu.    Max.
## -0.3011  3.0759  3.6865  3.6508  4.2797  7.0724
```

c: ln(FOODAWAY) is only defined for positive values. If FOODAWAY = 0, taking logarithm log(0) is an undefined value. so all observations that FOODAWAY = 0 must be removed, making the dataset smaller.

```
##
## Call:
## lm(formula = log_foodaway ~ income, data = df)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -3.6547 -0.5777  0.0530  0.5937  2.7000
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept) 3.1293004  0.0565503   55.34   <2e-16 ***
## income      0.0069017  0.0006546   10.54   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.8761 on 1020 degrees of freedom
## Multiple R-squared:  0.09826,    Adjusted R-squared:  0.09738
## F-statistic: 111.1 on 1 and 1020 DF,  p-value: < 2.2e-16
```

the beta is 0.69% and we can interpret it as the increase in income for 100 will change foodway by 0.69%





the plot appears randomly distributed along 0 at glance.