univariable analysis for Log value_price (product with discount price) variable

```{r}

model.value_price <- glm(online_only ~ log_value_price, family = binomial, data = sephora)



sum_model.value_price <- summary(model.value_price)



sum_model.value_price

```



```
Call:
glm(formula = online_only ~ log_value_price, family = binomial,
    data = sephora)

Coefficients:
                Estimate Std. Error z value Pr(>|z|)
(Intercept)     -2.44354    0.13590 -17.980   <2e-16 ***
log_value_price  0.33467    0.03506   9.544   <2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

(Dispersion parameter for binomial family taken to be 1)

    Null deviance: 9791.0  on 8986  degrees of freedom
Residual deviance: 9699.8  on 8985  degrees of freedom
AIC: 9703.8

Number of Fisher Scoring iterations: 4
```

Wald test for Log value_price variable

```{r}

# Wald test

wald_value_price <- round(sum_model.value_price$coefficients[2]/sum_model.value_price$coefficients[2,2],3)
```

```
pvalue_value_price <- round(2*(1-pnorm(wald_value_price)),4)
```

```

$$H_0 : \beta_1 = 0$$

$$W = \frac{\hat{\beta}_1}{\hat{SE}(\hat{\beta}_1)} = 9.544$$

$$P\_value = 0$$

According to the Wald test, the independent variable “value_price” is statistically significant because its p-values is less than the significant level α=0.25
```