Math with Mardown and Pandoc

Bayes Rule

$$Pr(\theta|y) = \frac{Pr(y|\theta)Pr(\theta)}{Pr(y)}$$

$$Pr(\theta|y) \propto Pr(y|\theta)Pr(\theta)$$

Linear Model

$$Y \sim X\beta_0 + X\beta_1 + \epsilon$$

$$\epsilon \sim N(0, \sigma^2)$$

Cauchy-Schwarz Inequality

$$\left(\sum_{k=1}^{n} a_k b_k\right)^2 \leq \left(\sum_{k=1}^{n} a_k^2\right)\left(\sum_{k=1}^{n} b_k^2\right)$$

Definite Integral

$$\int_0^\infty \frac{x^3}{e^x - 1}\,dx = \frac{\pi^4}{15}$$

Hello World program in C

```c
#include <stdio.h>

int main(){

  printf("Hello, World");

  return 0;
}
```