```
---
title: "Monte Carlo Simulation for Option Pricing"
author: "Muthahar Nasim"
date: "December 16, 2018"
output: pdf_document
---

```{r setup, include=FALSE}
knitr::opts_chunk$set(echo = TRUE)



   S <- 100
   sigma <- 0.4
   T <- 0.5
   r <- 0.03
   K<-98.5
   nsim<-1e4
   N <- 10000
   dt <- T/N
   ST <- S*exp((r-sigma^2/2)*T+sigma*sqrt(T)*rnorm(nsim))
   head(ST)
   summary(ST)
   payoff<- pmax(ST-K,0)
   head(payoff)
   summary(payoff)
   price <- exp(-r*T)*mean(payoff)
   head(price)
   summary(payoff)


```
head(ST)
[1] 136.70993 113.81224   83.98999 102.84975 155.08401 123.01847
summary(ST)
Min. 1st Qu. Median   Mean   3rd Qu.   Max.
31.77   80.90   98.54 102.16 118.88   270.19
summary(payoff)
Min. 1st Qu.   Median   Mean   3rd Qu.   Max.
0.0000   0.0000   0.0434   13.2240   20.3802 171.6903
head(payoff)
[1] 38.209927 15.312239   0.000000 4.349753 56.584015 24.518467

> price
[1] 13.02708


```{r cars}
summary(cars)
```

Including Plots

You can also embed plots, for example:
```

```{r pressure, echo=FALSE}
plot(time,c(0,path),type='l')
`
```