

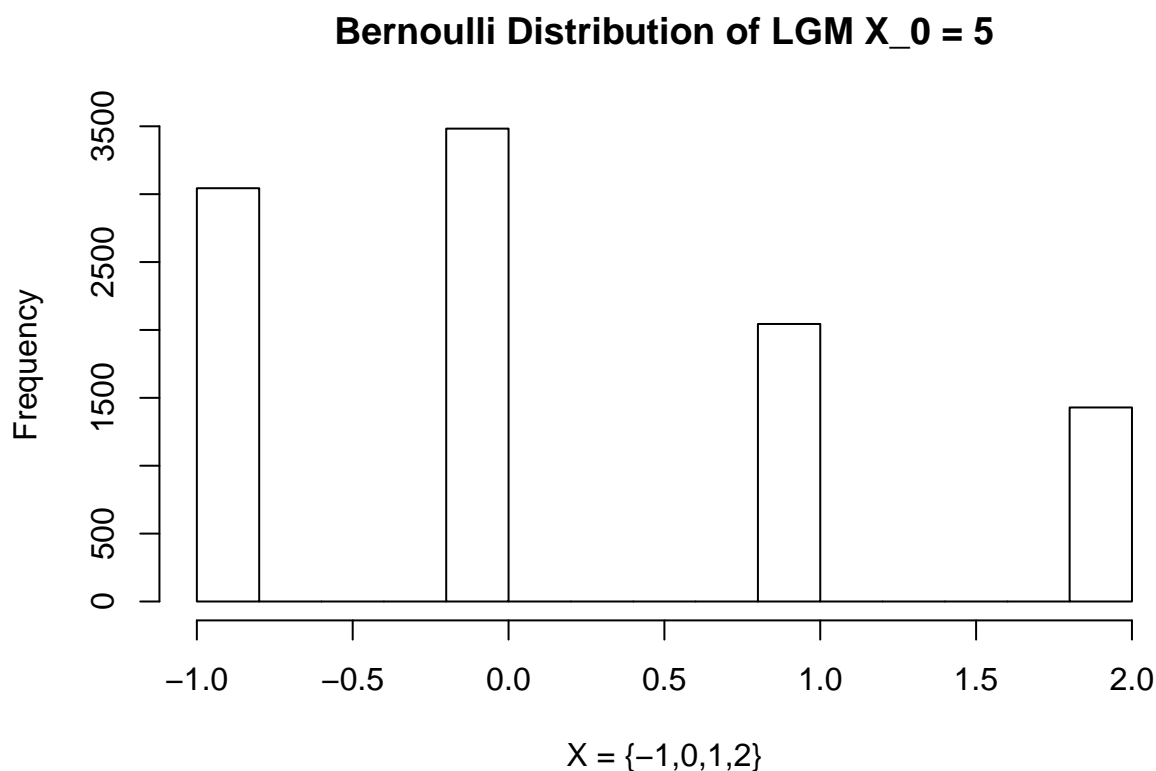
Computational Method PDF

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Problem 2(b)

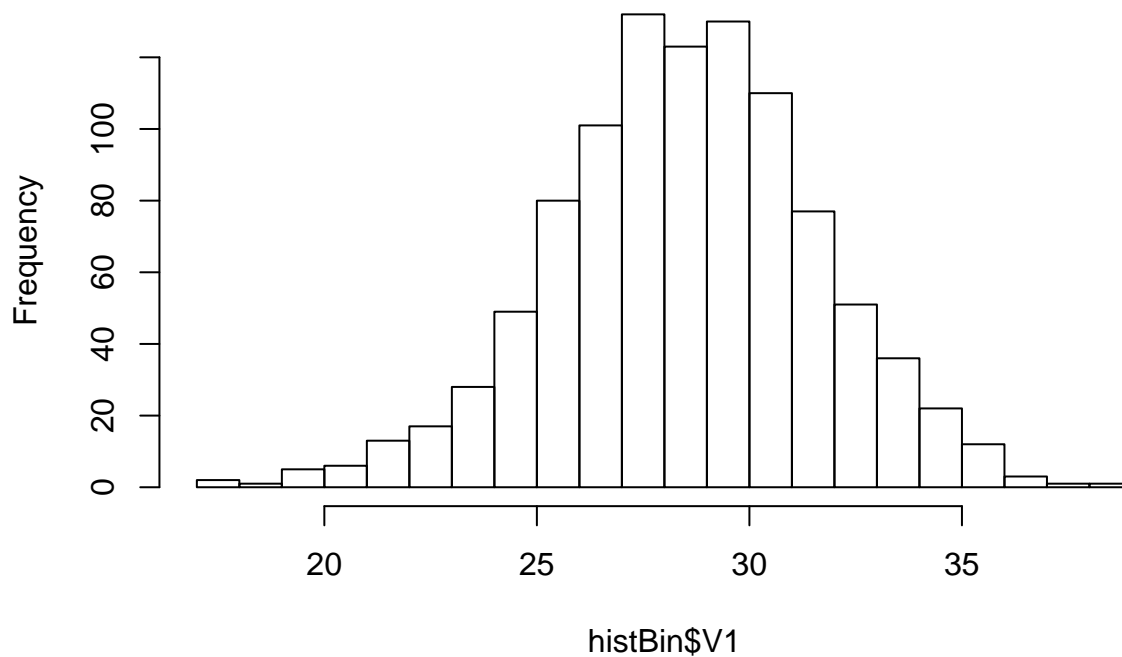
```
histBern <- read.delim("q2.txt", sep = '\n', header = FALSE)
hist(histBern$V1, main = "Bernoulli Distribution of LGM X_0 = 5", xlab = "X = {-1,0,1,2}")
```



Problem 3(b)

```
histBin <- read.delim("q3b.txt", sep = '\n', header = FALSE)
hist(histBin$V1, main = "Binomial Distribution of LGM Algorithm", breaks = 30)
```

Binomial Distribution of LGM Algorithm



```
prob40Greater <- 1 - pbinom(39,size = 44, p = 0.64)
prob40Greater
```

```
## [1] 4.823664e-05
```

The Probability for $P(X \geq 40)$ is 4.823664e-05, which is very close to zero. This is why we have zero in our C++. None of it passed 40.

Problem 4c

```
histexp <- read.delim("q4c.txt",sep = '\n', header = FALSE)
hist(histexp$V1, main = "Exponential Distribution of LGM Algorithm", breaks = 25)
```

Exponential Distribution of LGM Algorithm

