

# ECS 132 - Project

*Teresa Li, [sgtli@ucdavis.edu](mailto:sgtli@ucdavis.edu)  
Wenjing Fu, [luffu@ucdavis.edu](mailto:luffu@ucdavis.edu)*

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# Design

## Question 1

```
load("Traffic_data_orig.RData")
message <- "this is a secret message"
raw <- charToRaw(message)
time = Traffic_data_orig$Time
num = as.integer(rawToBits(raw))

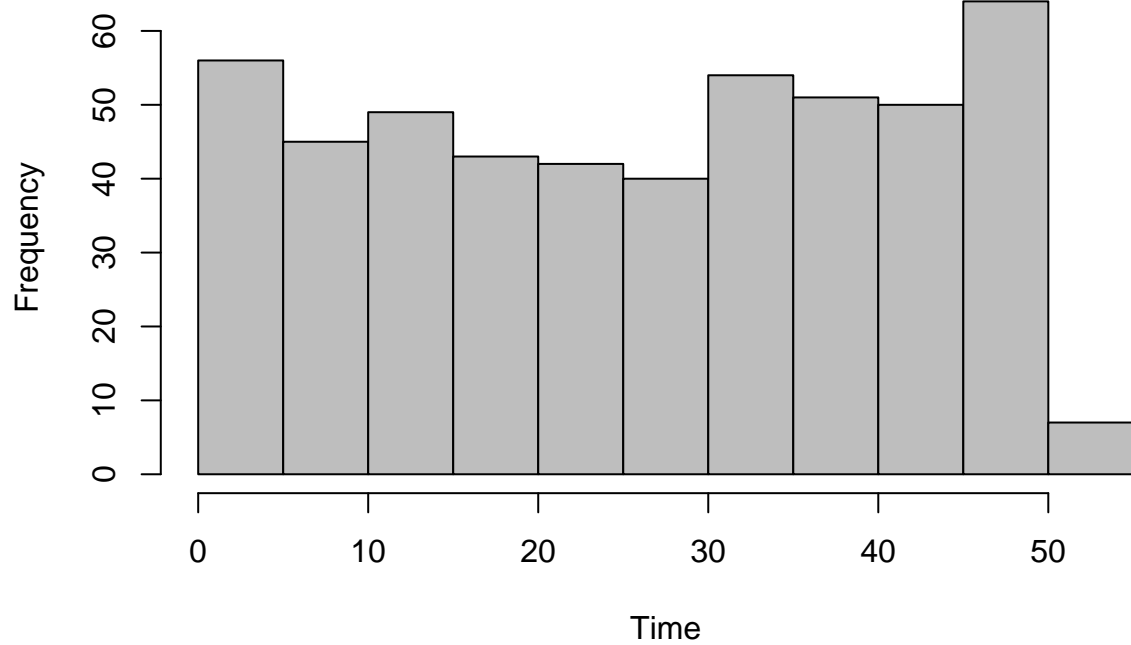
index = 1
bitlen = length(raw)*8
encrpt <- numeric(length(raw)*8)
for (i in (0:(length(raw)-1))) {
  j = 8
  while (j > 0) {
    if (num[i*8+j] == 0) {
      encrpt[index] = 0.25
    }
    else {
      encrpt[index] = 0.75
    }
    index = index+1
    j = j-1
  }
}

time2 <- Traffic_data_orig$Time
for (i in (1:bitlen)) {
  time2[i+1] = time2[i] + encrpt[i]
}
```

## Question 2

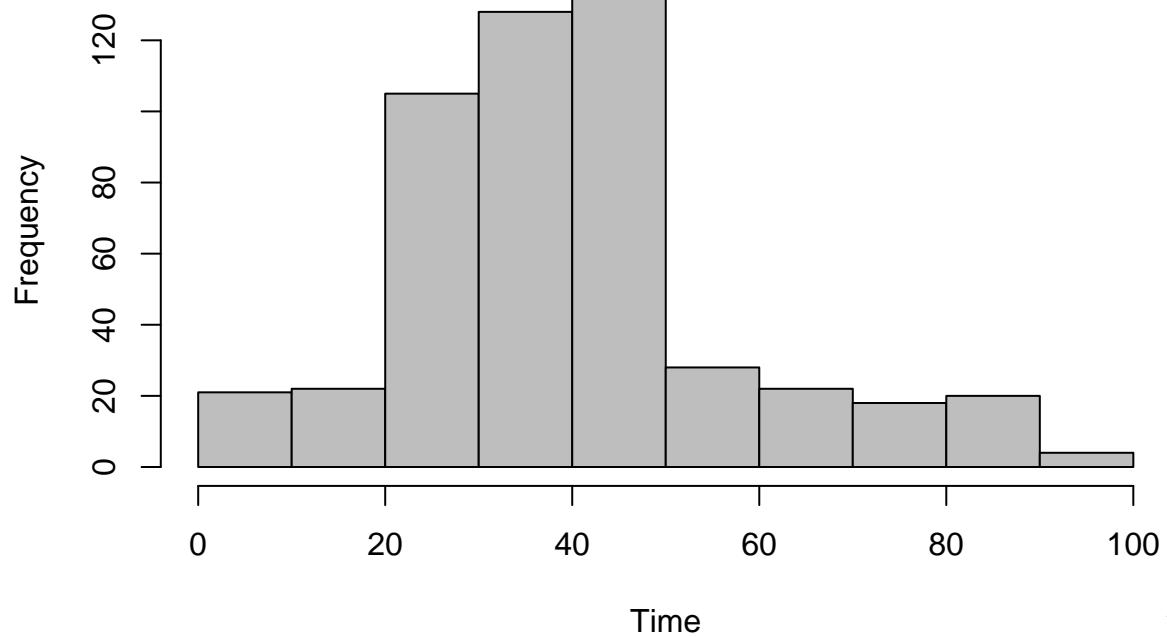
```
hist(time, col='grey', xlab = 'Time',
      main = 'Histogram of Overt Packet Stream')
```

### Histogram of Overt Packet Stream



```
hist(time2, col='grey', xlab = 'Time',  
     main = 'Histogram of Convert Packet Stream')
```

### Histogram of Convert Packet Stream



will be suspicious.

Yes, Eve

### Question 3

```
load("Traffic_data_orig.RData")
message <- "this is a secret message"
raw <- charToRaw(message)
time = Traffic_data_orig$Time
num = as.integer(rawToBits(raw))
delays = numeric(length(time) - 1)
for (i in (1:(length(time) - 1))) {
  delays[i] = time[i+1] - time[i]
}
m = median(delays)
max = max(delays)
min = min(delays)

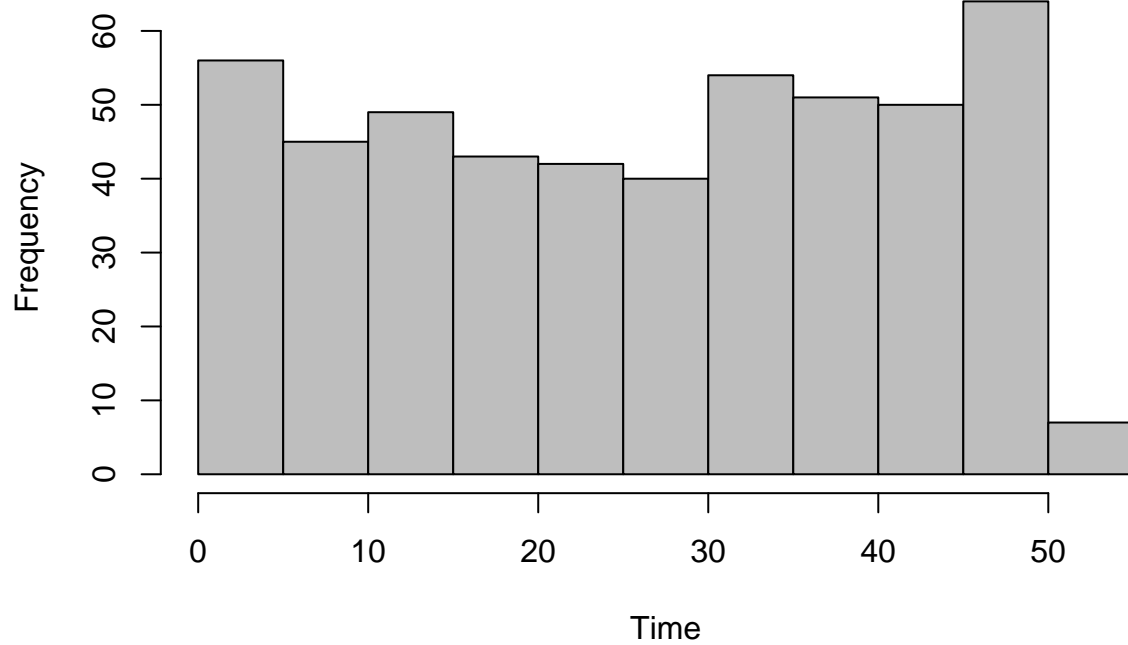
index = 1
bitlen = length(raw)*8
encrpt <- numeric(length(raw)*8)
for (i in (0:(length(raw)-1))) {
  j = 8
  while (j > 0) {
    if (num[i*8+j] == 0) {
      encrpt[index] = runif(1, min, m)
    }
    else {
      encrpt[index] = runif(1, m, max)
    }
    index = index+1
    j = j-1
  }
}

time2 <- Traffic_data_orig$Time
for (i in (1:bitlen)) {
  time2[i+1] = time2[i] + encrpt[i]
}
```

### Question 4

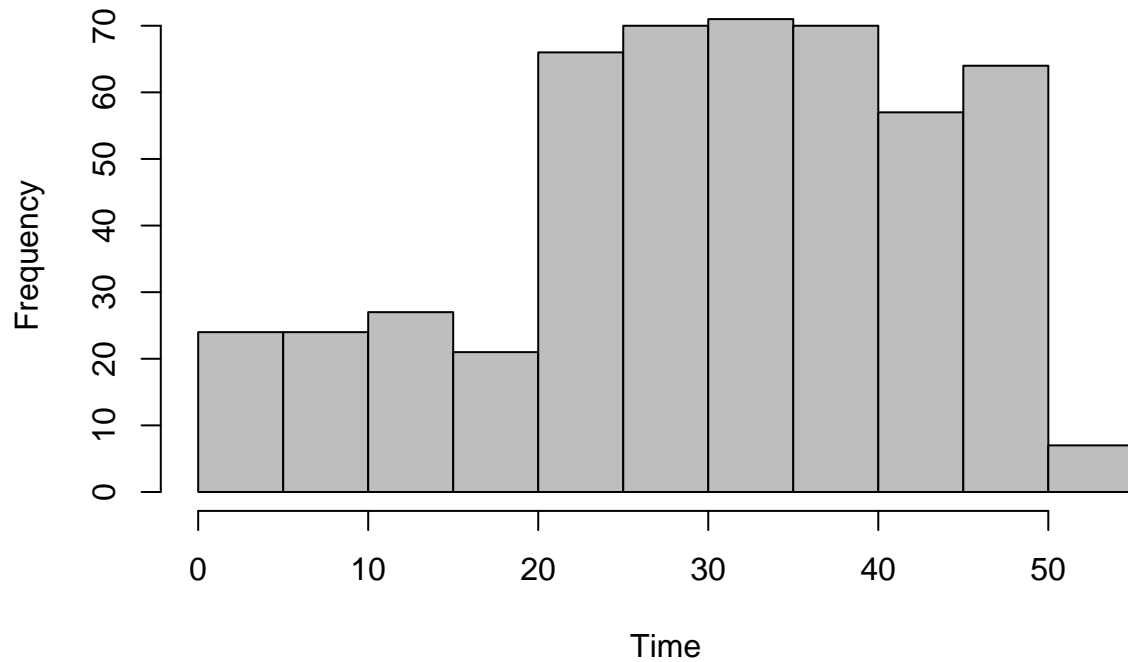
```
hist(time, col='grey', xlab = 'Time',
      main = 'Histogram of Overt Packet Stream')
```

### Histogram of Overt Packet Stream



```
hist(time2, col='grey', xlab = 'Time',  
     main = 'Histogram of Convert Packet Stream')
```

### Histogram of Convert Packet Stream



think Eva will be suspicious.

I don't

## Question 5

### Classmate Collaborators

Include the names and email IDs of everyone you collaborated with. You are free to discuss with your peers but everyone's work must be individual.

1. Person A, {personA} [at] ucdavis [dot] edu
2. Person B, {personB} [at] ucdavis [dot] edu