

Experiments: $N = 50, 75$

Kristyn Pantoja

6/27/2019

Simple Linear Regression: Unknown Slope

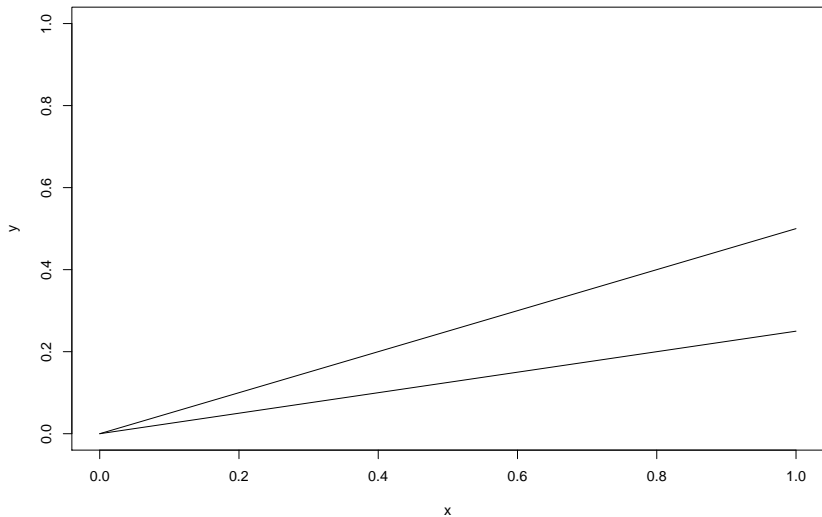
Simple Linear Regression: Unknown Intercept & Slope

Linear vs. Quadratic

Simple Linear Regression: Unknown Slope

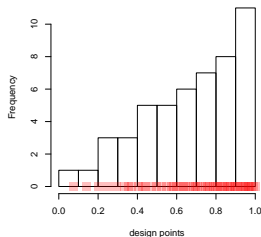
Simple Linear Regression: Unknown Slope

Two Proposed Lines

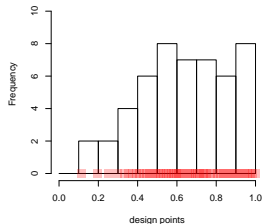


Designs, $N = 50$

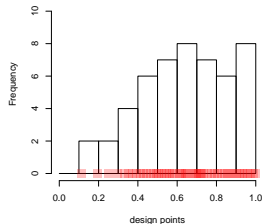
One-at-a-Time, $k = 1$



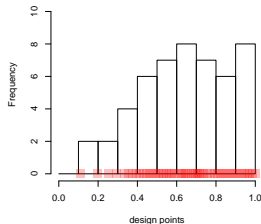
One-at-a-Time, $k = 4$



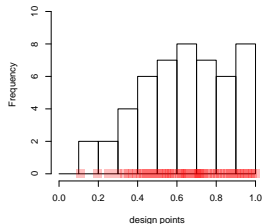
One-at-a-Time, $k = 20$



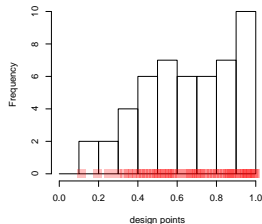
One-at-a-Time, $k = 50$



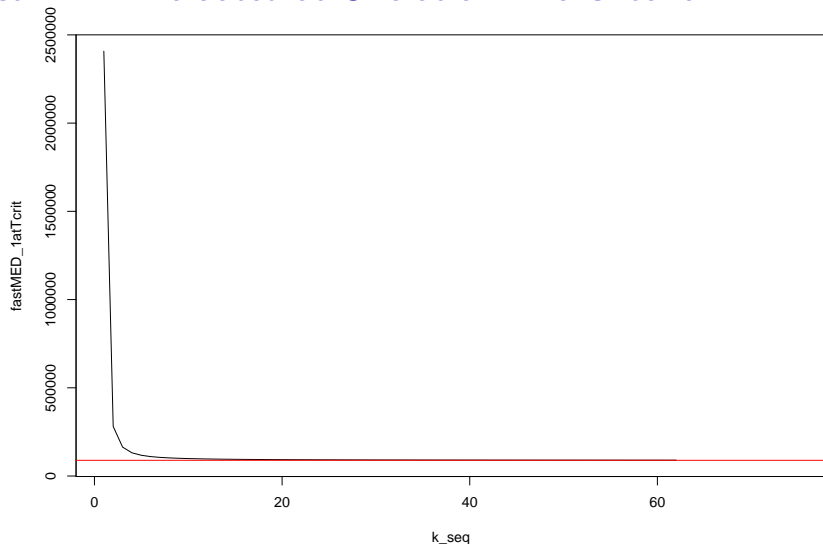
One-at-a-Time, $k = 100$



Fast, $S = 20$



Fast MED Evaluated at One-at-a-Time Criterion



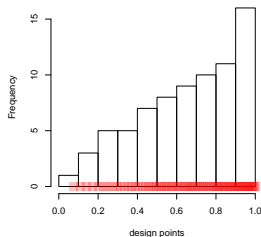
```
## [1] "Fast Criterion : 89022.3164734076"
```

```
## [1] "One-at-a-Time Criterion at max k : Inf"
```

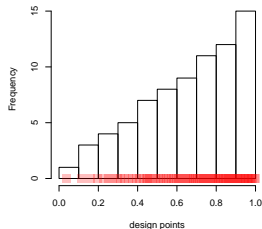
```
## [1] "Last non-Inf One-at-a-Time Criterion : 89862.4575637237"
```

Designs, $N = 75$

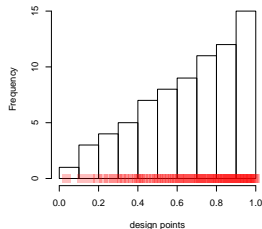
One-at-a-Time, $k = 1$



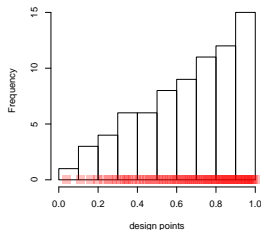
One-at-a-Time, $k = 4$



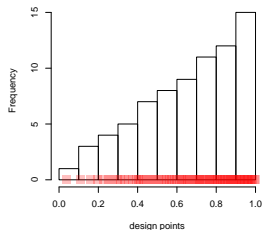
One-at-a-Time, $k = 20$



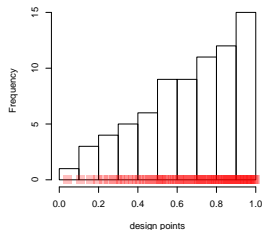
One-at-a-Time, $k = 50$



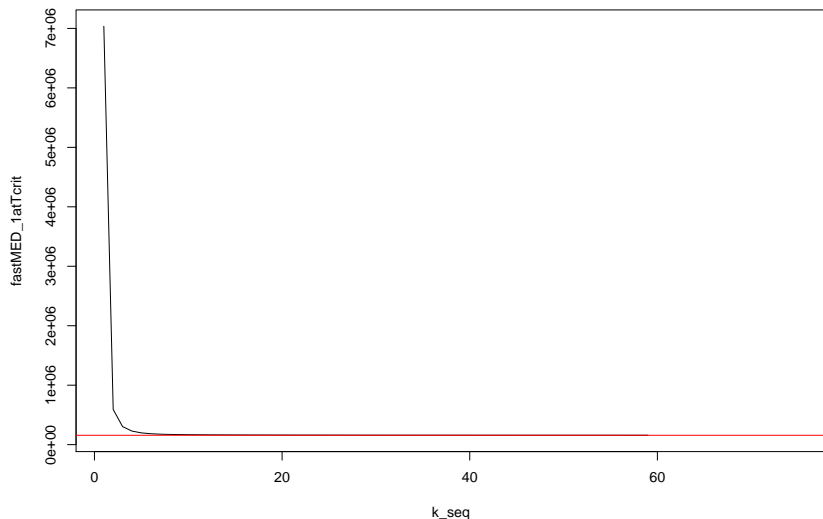
One-at-a-Time, $k = 100$



Fast, $S = 20$



Fast MED Evaluated at One-at-a-Time Criterion



```
## [1] "Fast Criterion : 157513.634787572"
```

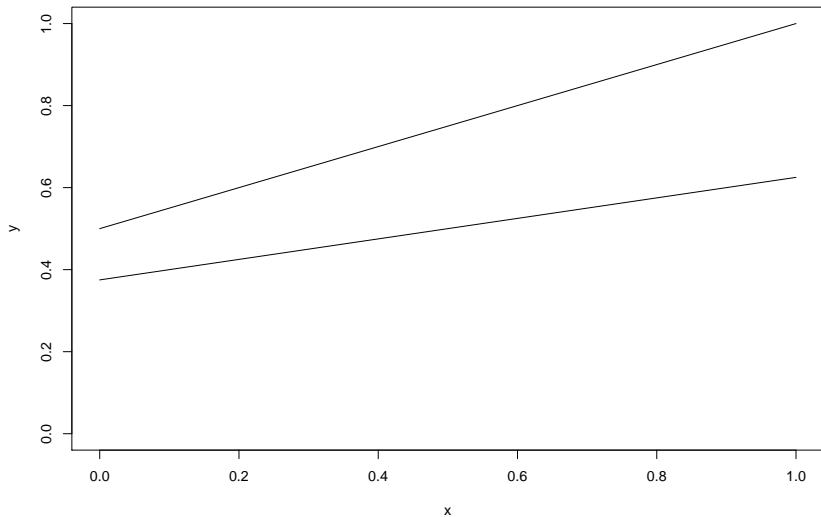
```
## [1] "One-at-a-Time Criterion at max k : Inf"
```

```
## [1] "Last non-Inf One-at-a-Time Criterion : 158207.408027967"
```


Simple Linear Regression: Unknown Intercept & Slope

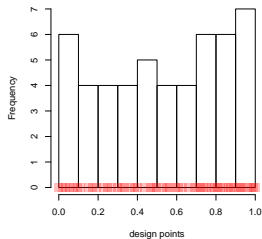
Simple Linear Regression: Unknown Intercept & Slope

Two Proposed Lines

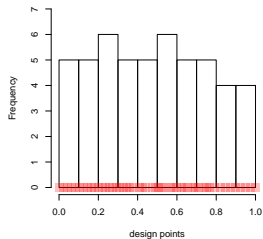


Designs, $N = 50$

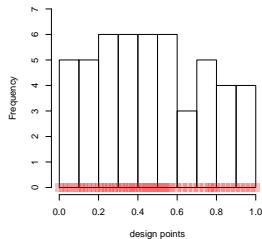
One-at-a-Time, $k = 1$



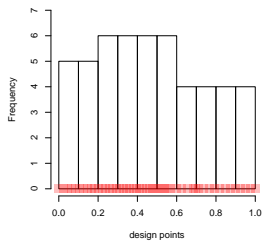
One-at-a-Time, $k = 4$



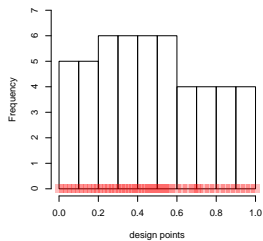
One-at-a-Time, $k = 20$



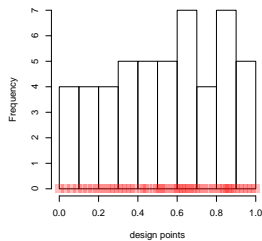
One-at-a-Time, $k = 50$



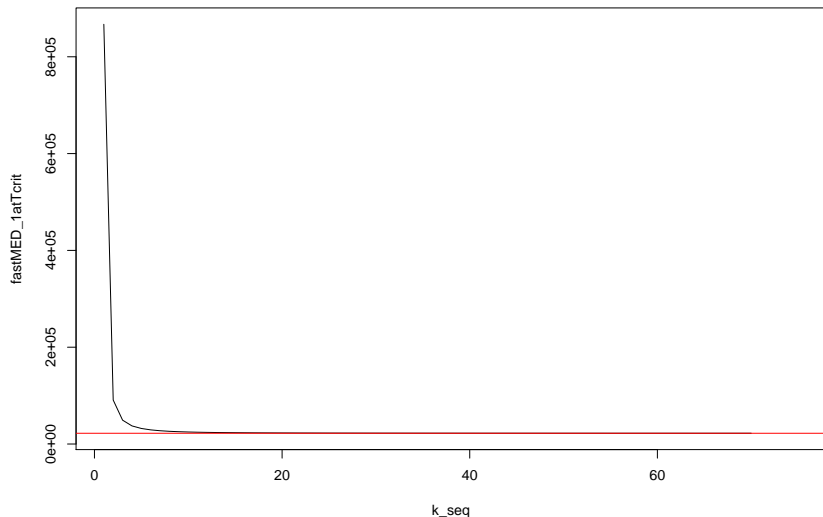
One-at-a-Time, $k = 100$



Fast, $S = 20$



Fast MED Evaluated at One-at-a-Time Criterion



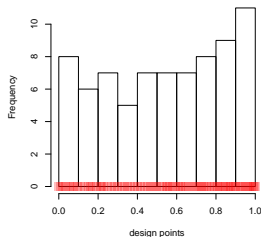
```
## [1] "Fast Criterion : 22210.7219031607"
```

```
## [1] "One-at-a-Time Criterion at max k : Inf"
```

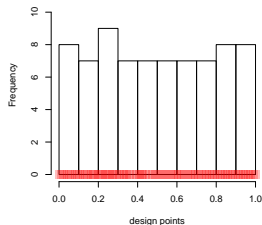
```
## [1] "Last non-Inf One-at-a-Time Criterion : 22248.1811171215"
```

Designs, $N = 75$

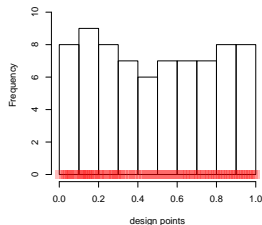
One-at-a-Time, $k = 1$



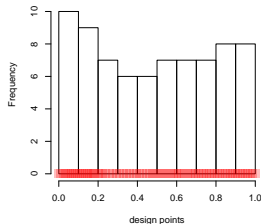
One-at-a-Time, $k = 4$



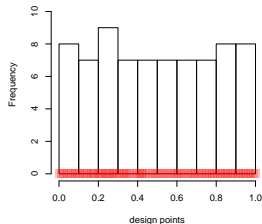
One-at-a-Time, $k = 20$



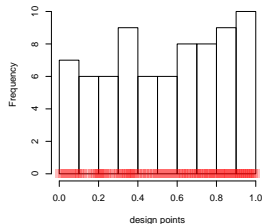
One-at-a-Time, $k = 50$



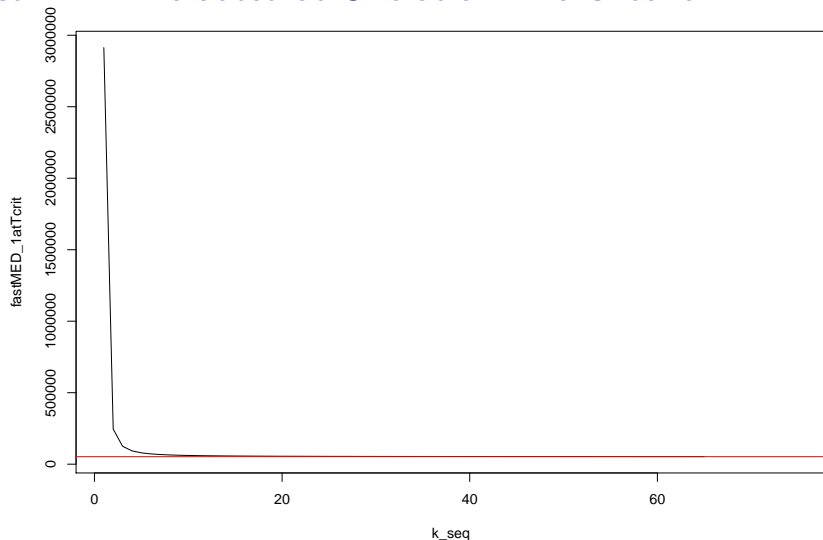
One-at-a-Time, $k = 100$



Fast, $S = 20$



Fast MED Evaluated at One-at-a-Time Criterion



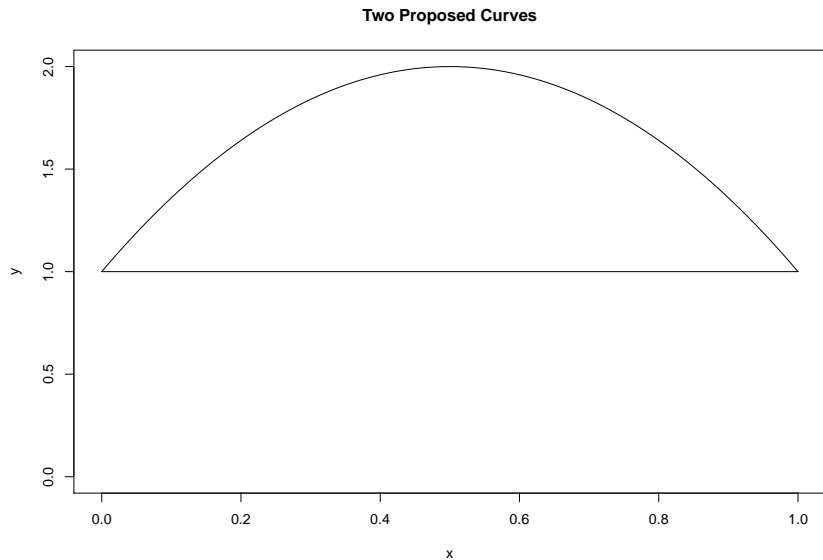
```
## [1] "Fast Criterion : 52591.61817958"
```

```
## [1] "One-at-a-Time Criterion at max k : Inf"
```

```
## [1] "Last non-Inf One-at-a-Time Criterion : 53084.2197715914"
```

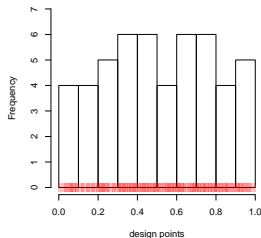
Linear vs. Quadratic

Linear vs. Quadratic

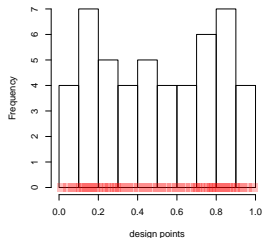


Designs, $N = 50$

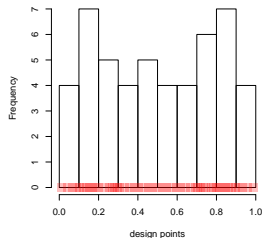
One-at-a-Time, $k = 1$



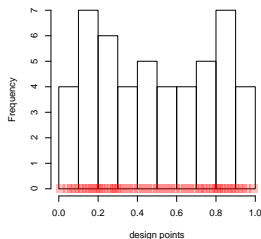
One-at-a-Time, $k = 4$



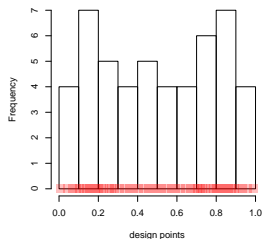
One-at-a-Time, $k = 20$



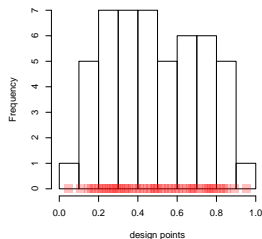
One-at-a-Time, $k = 50$



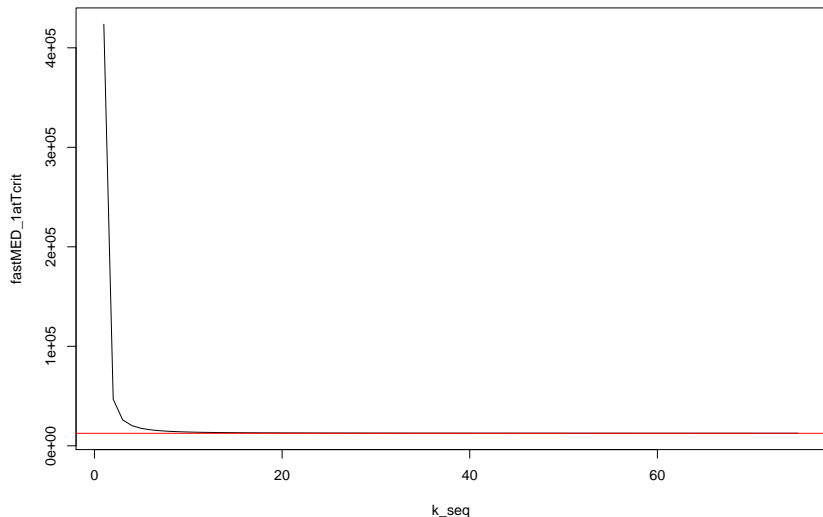
One-at-a-Time, $k = 100$



Fast, $S = 20$



Fast MED Evaluated at One-at-a-Time Criterion



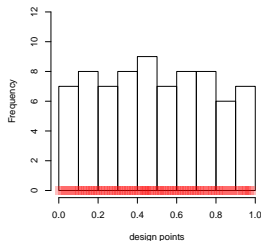
```
## [1] "Fast Criterion : 12565.4386585797"
```

```
## [1] "One-at-a-Time Criterion at max k : 12615.5737860973"
```

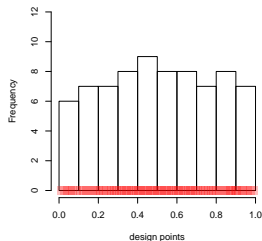
```
## [1] "Last non-Inf One-at-a-Time Criterion : 12615.5737860973"
```

Designs, $N = 75$

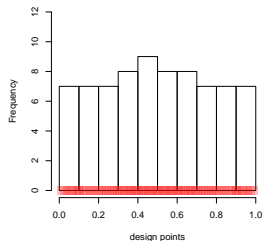
One-at-a-Time, $k = 1$



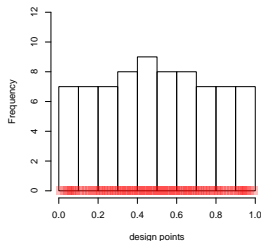
One-at-a-Time, $k = 4$



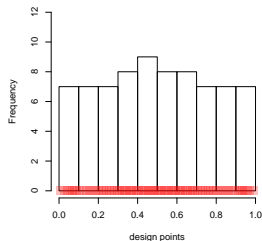
One-at-a-Time, $k = 20$



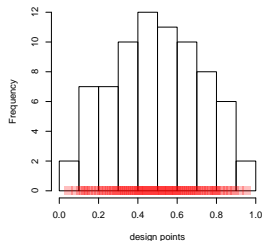
One-at-a-Time, $k = 50$



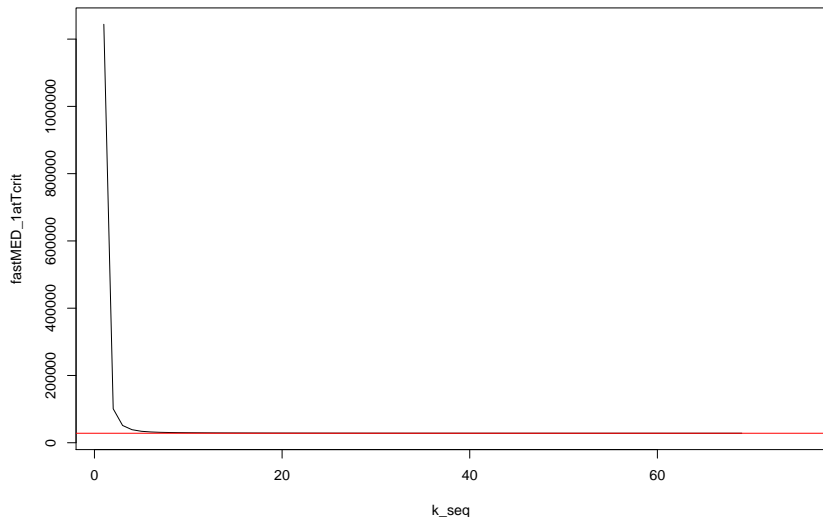
One-at-a-Time, $k = 100$



Fast, $S = 20$



Fast MED Evaluated at One-at-a-Time Criterion



```
## [1] "Fast Criterion : 28216.47808743"
```

```
## [1] "One-at-a-Time Criterion at max k : Inf"
```

```
## [1] "Last non-Inf One-at-a-Time Criterion : 28248.1463714976"
```