

Econ 1042 PS1

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Setup

```
kickers <- read_csv("kickers_v2.csv",  
                    show_col_types = FALSE) %>%  
  rename(., "ID" = "...1") %>%  
  mutate(Grass = if_else(Grass == TRUE, 1, 0))
```

```
## New names:  
## * ' ' -> '...1'
```

Question 1

```
# a  
min(kickers$Distance)
```

```
## [1] 18
```

```
max(kickers$Distance)
```

```
## [1] 76
```

```
mean(kickers$Distance)
```

```
## [1] 36.89738
```

```
median(kickers$Distance)
```

```
## [1] 37
```

```
# c  
kickers %>%  
  filter(Distance == max(Distance))
```

```
## # A tibble: 1 x 9  
##       ID Team   Year GameMinute Kicker Distance ScoreDiff Grass Success  
##   <dbl> <chr> <dbl>         <dbl> <chr>      <dbl>      <dbl> <dbl> <dbl>  
## 1  3558 OAK    2008          30 Janikowski    76         15      1      0
```

Question 2

```
forty_to_fortyfive <- kickers %>%  
  filter(Distance %in% (40:45))  
  
mean(forty_to_fortyfive$Success) * 100
```

```
## [1] 79.2149
```

```
over_fortyfive <- kickers %>%  
  filter(Distance > 45)  
  
mean(over_fortyfive$Success) * 100
```

```
## [1] 64.4477
```

Question 3

```
grass_only <- kickers %>%  
  filter(Grass == 1)  
  
mean(grass_only$Success) * 100
```

```
## [1] 82.39322
```

```
turf_only <- kickers %>%  
  filter(Grass == 0)  
  
mean(turf_only$Success) * 100
```

```
## [1] 84.32614
```

```
# ASK  
ols_reg_q3 <- lm(Success ~ Grass, data = kickers)  
summary(ols_reg_q3)
```

```
##  
## Call:  
## lm(formula = Success ~ Grass, data = kickers)  
##  
## Residuals:  
##      Min       1Q   Median       3Q      Max   
## -0.8433  0.1567  0.1567  0.1761  0.1761   
##  
## Coefficients:  
##              Estimate Std. Error t value Pr(>|t|)      
## (Intercept)  0.84326    0.00525 160.624 < 2e-16 ***  
## Grass       -0.01933    0.00709  -2.726  0.00641 **
```

```
## ---  
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1  
##  
## Residual standard error: 0.3732 on 11185 degrees of freedom  
## Multiple R-squared:  0.0006641, Adjusted R-squared:  0.0005748  
## F-statistic: 7.433 on 1 and 11185 DF, p-value: 0.006414
```