Sexton

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GENERATE DATA

```
summary(Data)
```

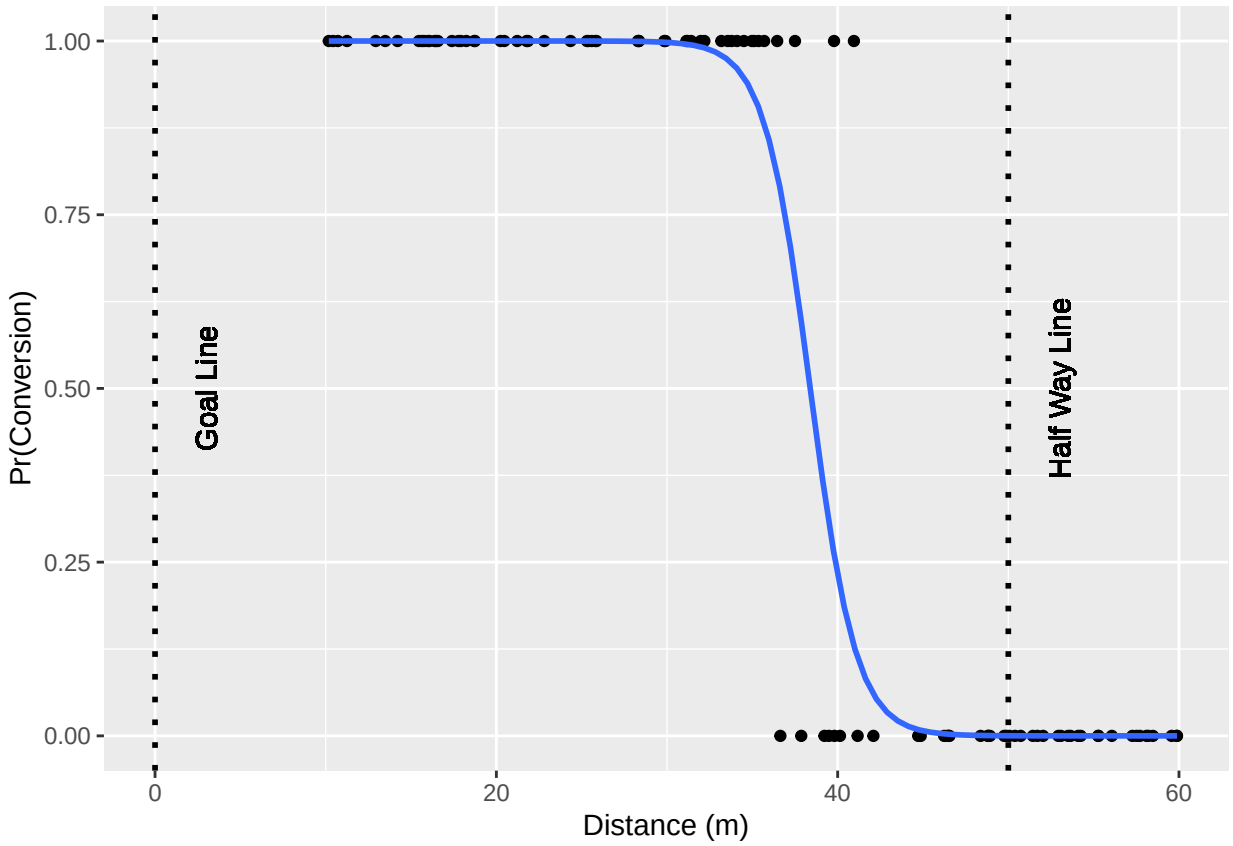
```
##    Conversion        Age           Distance         Angle          Location
##  Min.   :0.00   Min.   :20.02   Min.   :10.18   Min.   :-42.7779   Away:59
##  1st Qu.:0.00   1st Qu.:23.09   1st Qu.:21.83   1st Qu.:-11.9321   Home:41
##  Median :1.00   Median :26.16   Median :35.24   Median : -0.9819
##  Mean   :0.56   Mean   :26.13   Mean   :35.76   Mean   : -1.4090
##  3rd Qu.:1.00   3rd Qu.:29.45   3rd Qu.:49.79   3rd Qu.:  9.4521
##  Max.   :1.00   Max.   :32.48   Max.   :59.89   Max.   : 38.6159
```

```
Sexton = glm(Conversion ~ Distance,  data = Data,family=binomial("logit"))
summary(Sexton)
```

```
##
## Call:
## glm(formula = Conversion ~ Distance, family = binomial("logit"),
##     data = Data)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -1.75653  -0.00914   0.00016   0.01234   2.02116
##
## Coefficients:
##             Estimate Std. Error z value Pr(>|z|)
## (Intercept)  28.5544     9.8071   2.912  0.00360 **
## Distance     -0.7437     0.2567  -2.898  0.00376 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 137.186  on 99  degrees of freedom
## Residual deviance:  17.216  on 98  degrees of freedom
## AIC: 21.216
##
## Number of Fisher Scoring iterations: 9
```

```
library(ggplot2)
ggplot(Data, aes(x=Distance, y=Conversion)) + geom_point() +
  stat_smooth(method="glm", method.args=list(family="binomial"), se=FALSE)+xlab("Distance (m)")+ylab("P
  geom_vline(xintercept=0,col="black",size=1,linetype="dotted")+  geom_text(aes(x=3, label="Goal Line",
```

```
## `geom_smooth()` using formula 'y ~ x'
```




```
# ggsave("Sexton.png",dpi=300, width = 4, height = 2.5)
```