Sexton

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GENERATE DATA

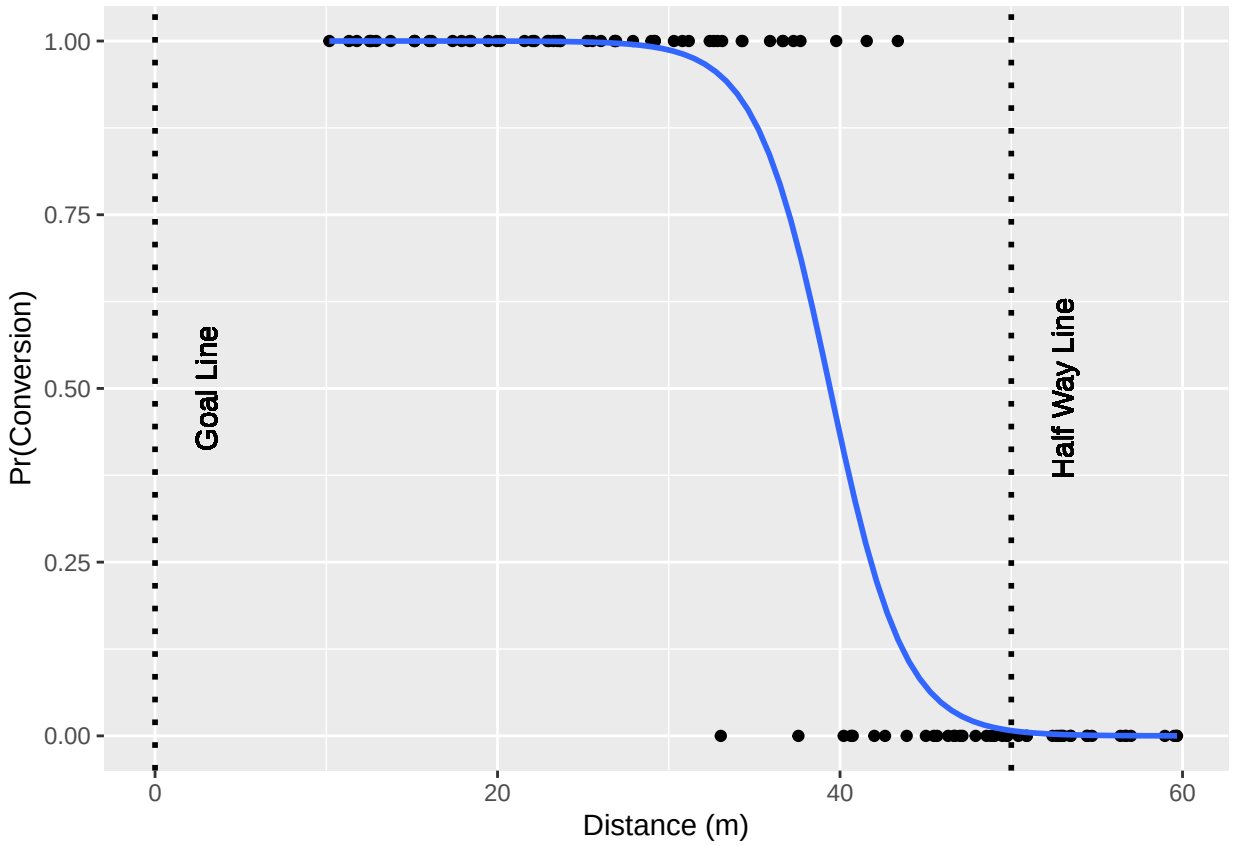
```
summary(Data)
```

```
##    Conversion        Age           Distance         Angle
##  Min.   :0.00   Min.   :20.05   Min.   :10.18   Min.   :-37.325
##  1st Qu.:0.00   1st Qu.:22.71   1st Qu.:23.19   1st Qu.: -4.724
##  Median :1.00   Median :25.15   Median :36.28   Median :  1.510
##  Mean   :0.56   Mean   :26.18   Mean   :35.71   Mean   :  2.728
##  3rd Qu.:1.00   3rd Qu.:29.46   3rd Qu.:48.88   3rd Qu.:  9.866
##  Max.   :1.00   Max.   :32.97   Max.   :59.68   Max.   : 41.652
##  Location
##  Away:50
##  Home:50
##
##
##
##
```

```
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
## -2.44614  -0.10014   0.00306   0.05953   1.98660
##
## Coefficients:
##             Estimate Std. Error z value Pr(>|z|)
## (Intercept)  18.1623     4.8381   3.754 0.000174 ***
## Distance     -0.4608     0.1215  -3.793 0.000149 ***
## ---
## 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:  25.132  on 98  degrees of freedom
## AIC: 29.132
##
## Number of Fisher Scoring iterations: 8
```

```
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",
```




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