MA677 assignment-Power curve

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How to generate Power curve

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library(ggplot2)
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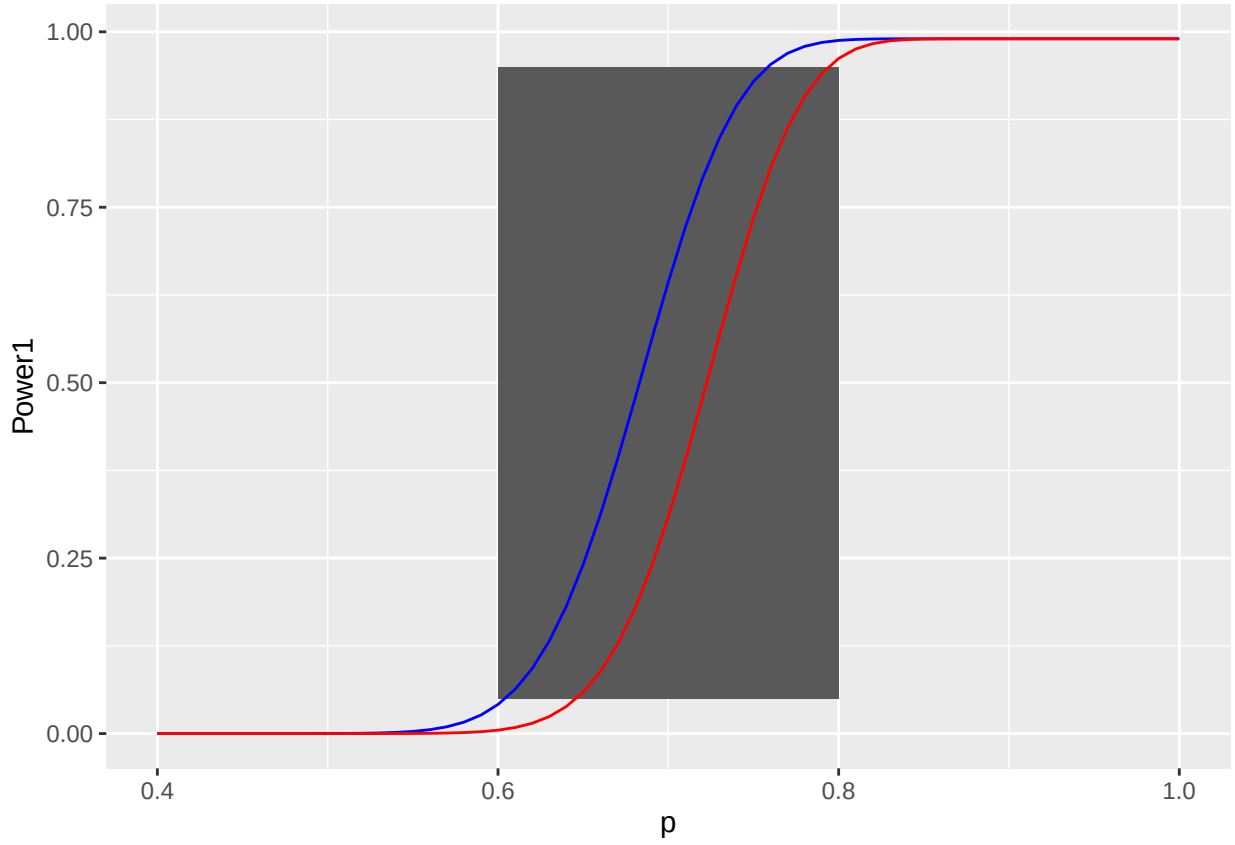
```
n = 100
m1 = 69
m2=73
p = seq(0.4, 1, 0.01)
Power1=cumsum(dbinom(m1,n,p))
Power2=cumsum(dbinom(m2,n,p))
P=data.frame(p,Power1,Power2)
ggplot(P)+geom_rect(aes(xmin = 0.6, xmax = 0.8, ymin = 0.05, ymax = 0.95), alpha = 0.5)+
  geom_line(aes(p, Power1),color="blue")+geom_line(aes(p, Power2),color="red")
```



Explanation

The power line should go through the lower and upper bound of the black rectangular area, this is because the lower bound represent the 5% type 1 error and the upper bound represent the type 2 error. We wish both of the Type 1 error and Type 2 error to less than 5%. So in the graph, The blue line, when m=69 is the smallest value which can go through the bottom of the box area. And m=73 is the largest value which power line can go through the top of the box area.