ASYNCHRONUS

Nilanjana Dey

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##INTRODUCTION :

Two bonding agents, A and B, are available for making a laminated beam. Out of 50 beams made with Agent A, 11 failed a stress test, whereas 19 of the 50 beams made with Agent B failed.

## BOTH-TAILED TEST

H0: p1=p2 vs H1: p1!=p2

x=c(11,19)  
n=c(50,50)  
prop.test(x, n, alternative = "two.sided", conf.level = 0.95)

##   
## 2-sample test for equality of proportions with continuity correction  
##   
## data: x out of n  
## X-squared = 2.3333, df = 1, p-value = 0.1266  
## alternative hypothesis: two.sided  
## 95 percent confidence interval:  
## -0.35687521 0.03687521  
## sample estimates:  
## prop 1 prop 2   
## 0.22 0.38

##CONCLUSION : We accept null hypothesis(p-value >0.05),that is, the proportion at which the laminated beams failed to work for Agents A and B, are equal.

##LEFT TAILED TEST

H0: p1=p2 vs H1: p1<p2

x=c(11,19)  
n=c(50,50)  
prop.test(x, n, alternative = "less", conf.level = 0.95)

##   
## 2-sample test for equality of proportions with continuity correction  
##   
## data: x out of n  
## X-squared = 2.3333, df = 1, p-value = 0.06332  
## alternative hypothesis: less  
## 95 percent confidence interval:  
## -1.000000000 0.008438357  
## sample estimates:  
## prop 1 prop 2   
## 0.22 0.38

##CONCLUSION : We accept null hypothesis (p-value >0.05),that is, the proportion at which the laminated beams failed to work for Agents A and B, are equal.