STA 602 lab5

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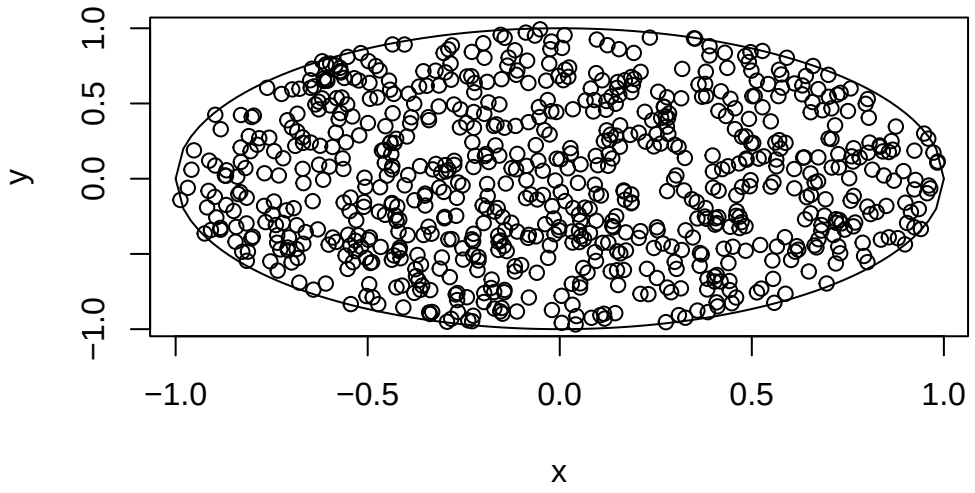
```r
x <- runif(1000,-1,1)
y <- runif(1000,-1,1)
idx <- (x^2 + y^2 < 1)

plot(x[idx], y[idx], xlab="x", ylab="y")
curve((  1 * (1 - x^2)^0.5 ), add=TRUE, from=-1 , to =1)
curve(( -1 * (1 - x^2)^0.5 ), add=TRUE, from=-1 , to =1)
```



Exercise 1

1. No - the normal has much larger support than the exponential, including negative values, so the sample wouldn't be accurate. Support of exponential does not dominate normal.
2. You can sample here on -2,2 but you can't go past that since the cauchy tails are heavier than a normal density
3. yes

Exercise 2

1. M values are ≥ 2