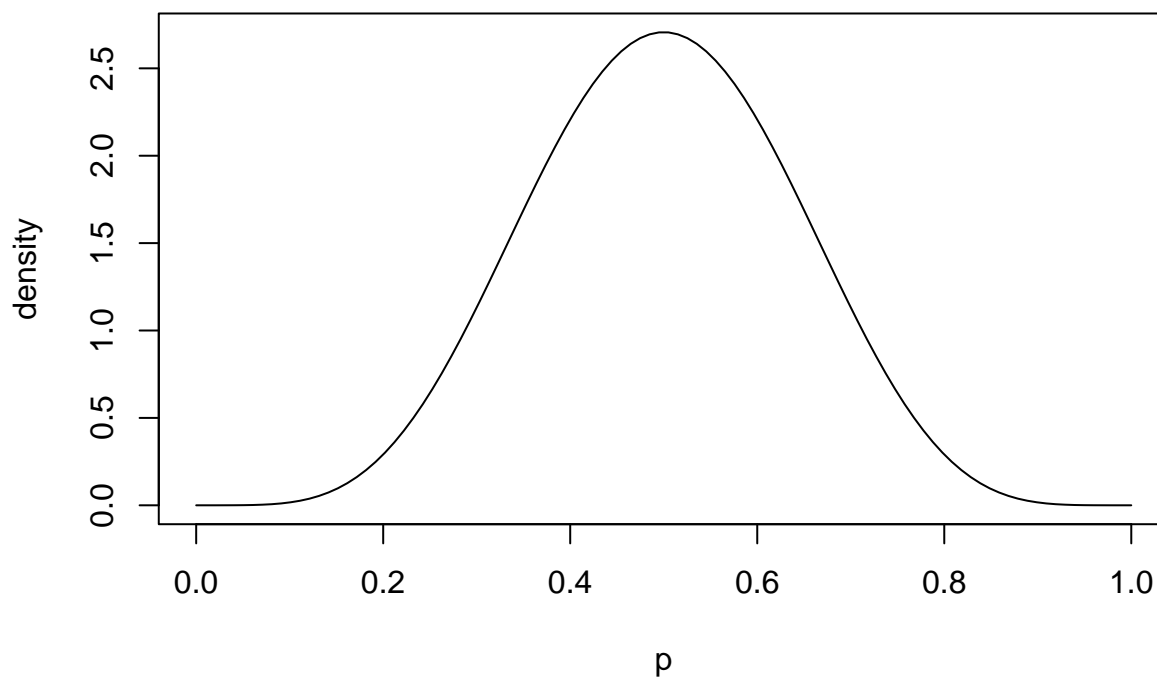# STAT 432 Giang Le

Homework 2. Question 1b

```r
p <- seq(0,1, length=100)
plot(p, dbeta(p, 6, 6), ylab="density", type ="l", col=1)
```



```r
qbeta(c(0.025, 0.975), 6, 6)
```

```
## [1] 0.2337936 0.7662064
```

Homework 2. Question 3b

```r
a <- 0.1
b <- 0.1
s <- 17
n <- 6

n.star <- 10
y.star <- 0:n.star

integrand <- function(theta) (theta^(y.star+s+a-1) *
                              exp(-(n+b+1)*(theta)))/factorial(y.star)

post.pred.probs <- numeric(n.star+1)

for(i in 1:length(y.star))
  post.pred.probs[i] <- integrate(integrand,0,Inf)$value

plot(y.star, post.pred.probs, type="h",
     ylim=c(0,1), xlab=expression(y^symbol("*")),
```

```
main="Posterior Predictive Density")
```

Posterior Predictive Density