Review of p-value computation

Data Analysis for Psychology in R1

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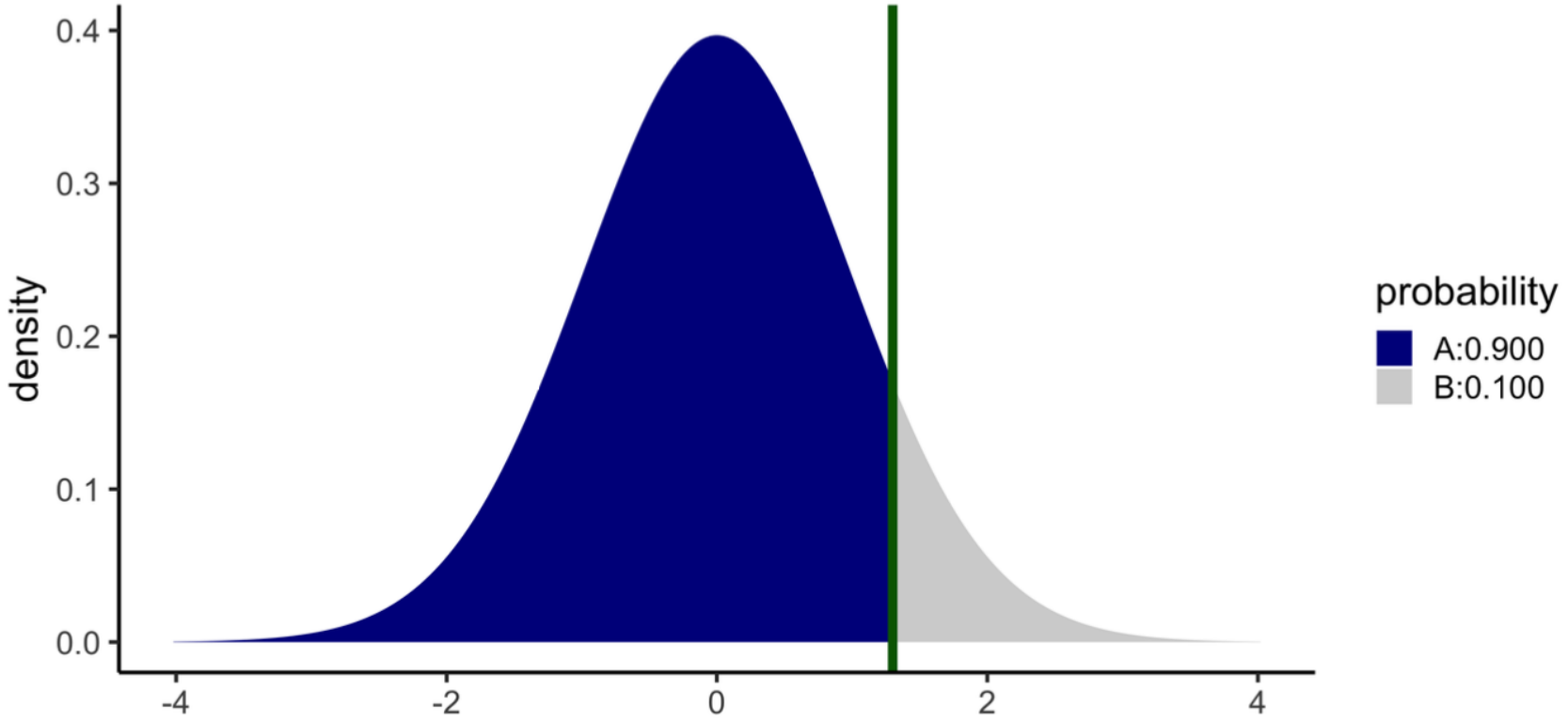
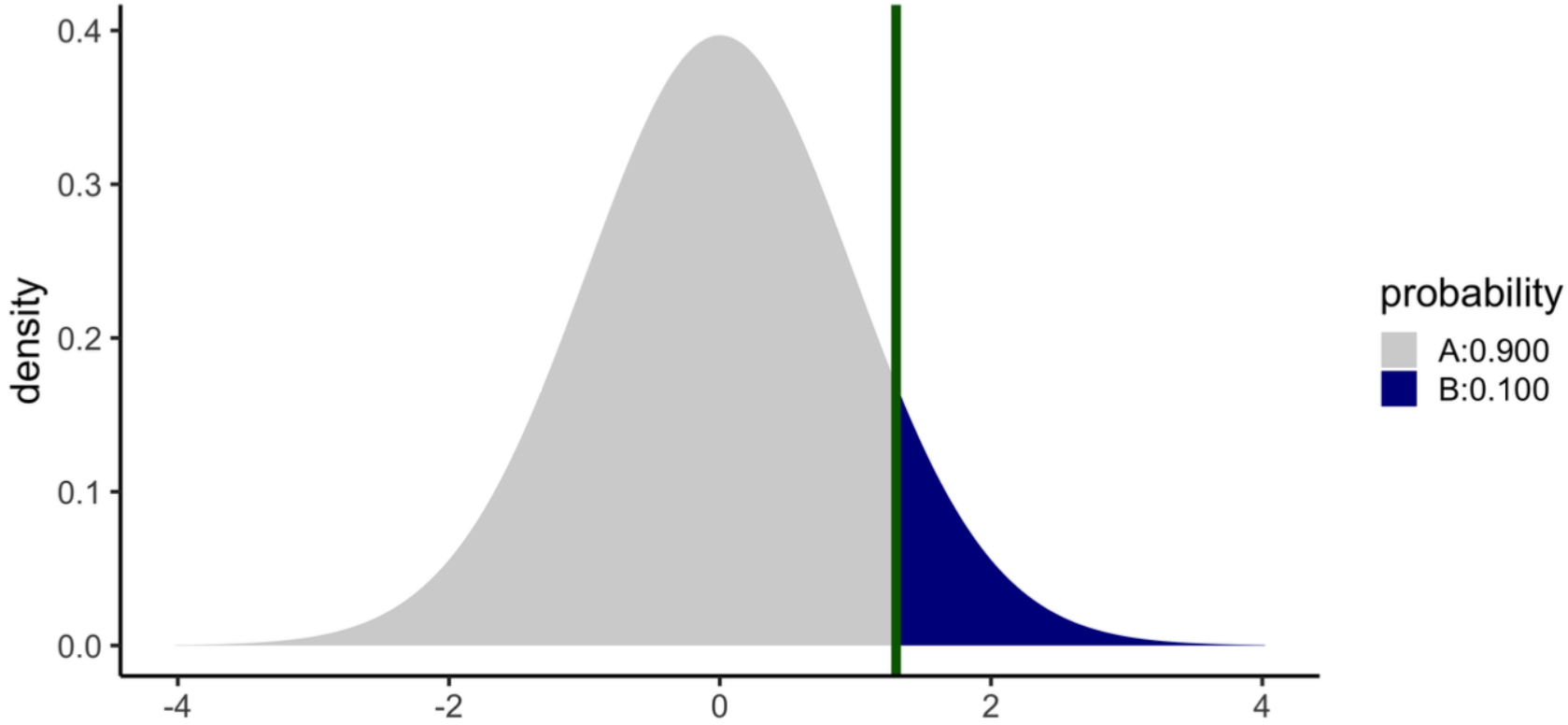
What if the observed t-statistic is positive?

If H_1: $\mu < \mu_0$ and tobs = $t = +1.3$, pvalue = A



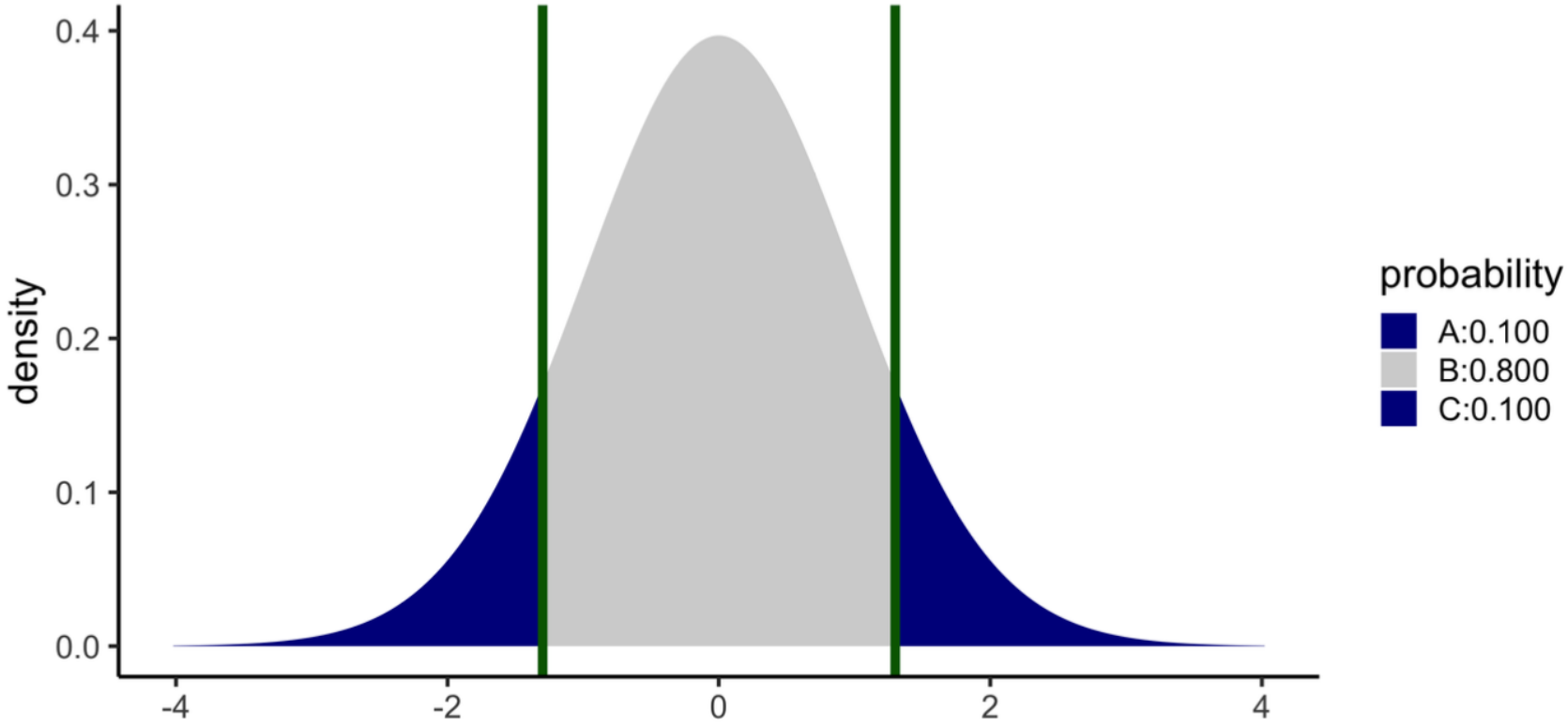

```
pt(tobs, df = n-1, lower.tail = TRUE)
```

If H_1: $\mu > \mu_0$ and tobs = $t = +1.3$, pvalue = B




```
pt(tobs, df = n-1, lower.tail = FALSE)
```

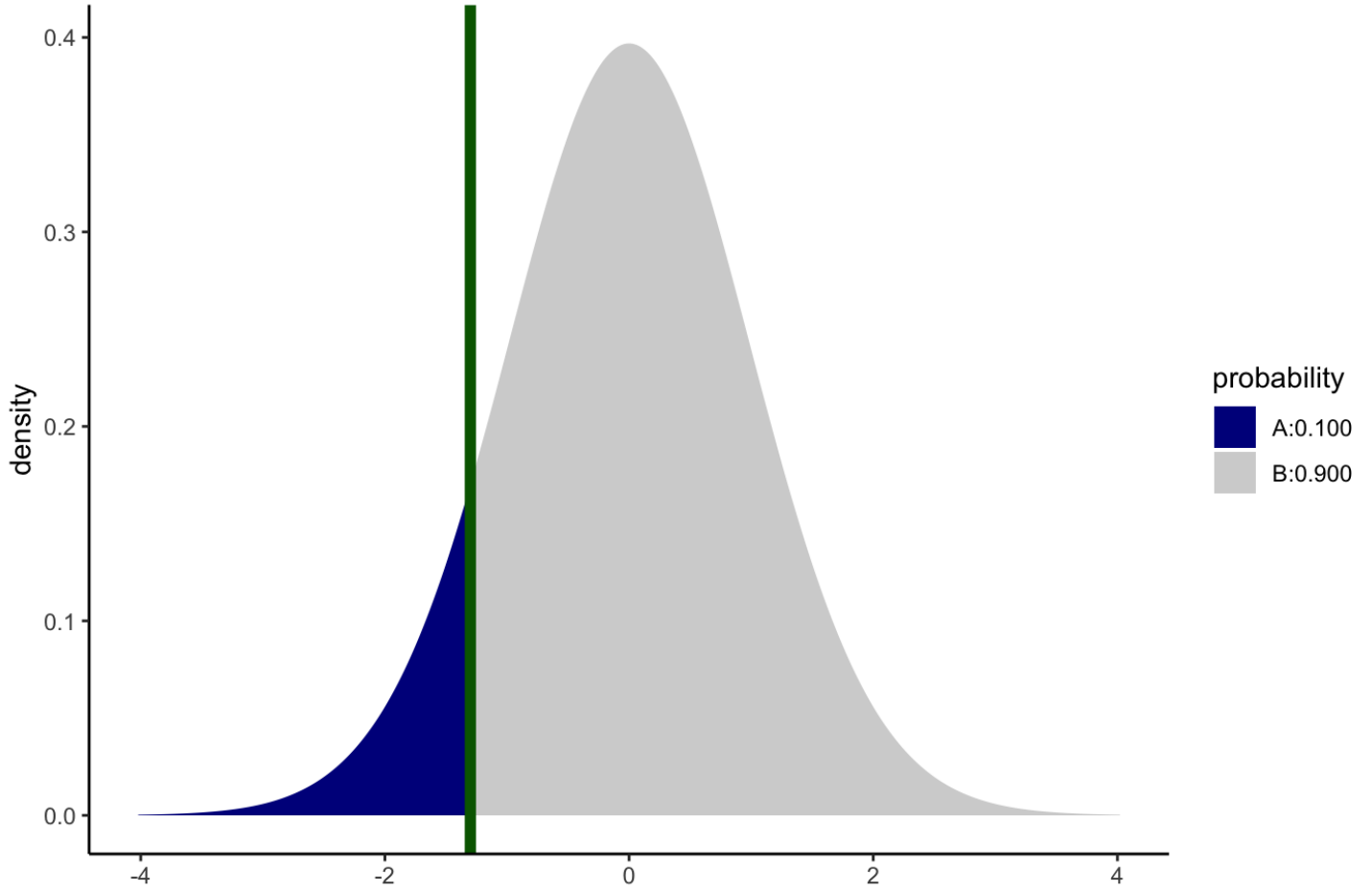
If H_1: $\mu \neq \mu_0$ and tobs = $t = +1.3$, pvalue = A + C




```
2 * pt(abs(tobs), df = n-1, lower.tail = FALSE)
```

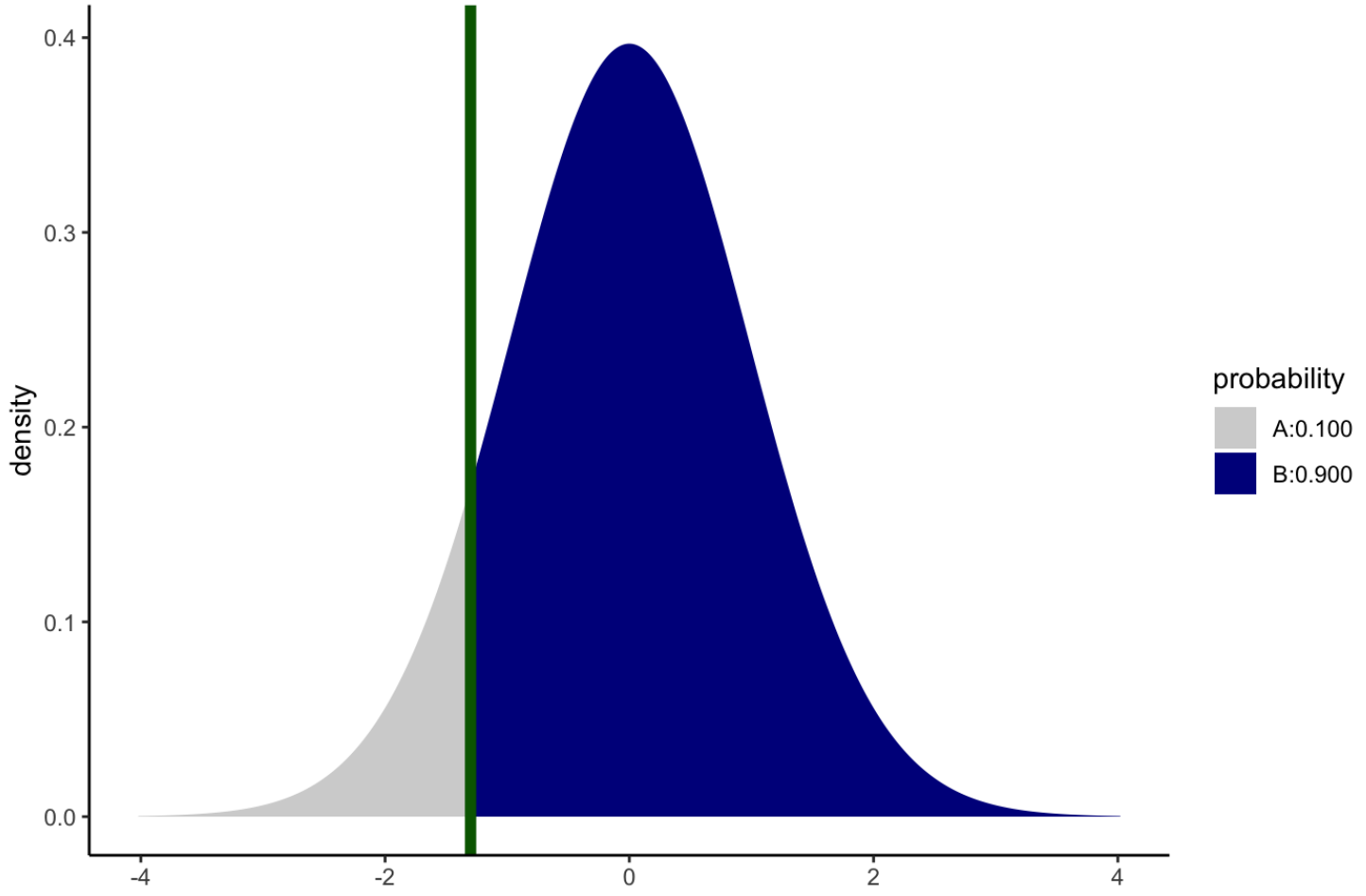
What if the observed t-statistic is negative?

If H_1: $\mu < \mu_0$ and tobs = $t = -1.3$, pvalue = A



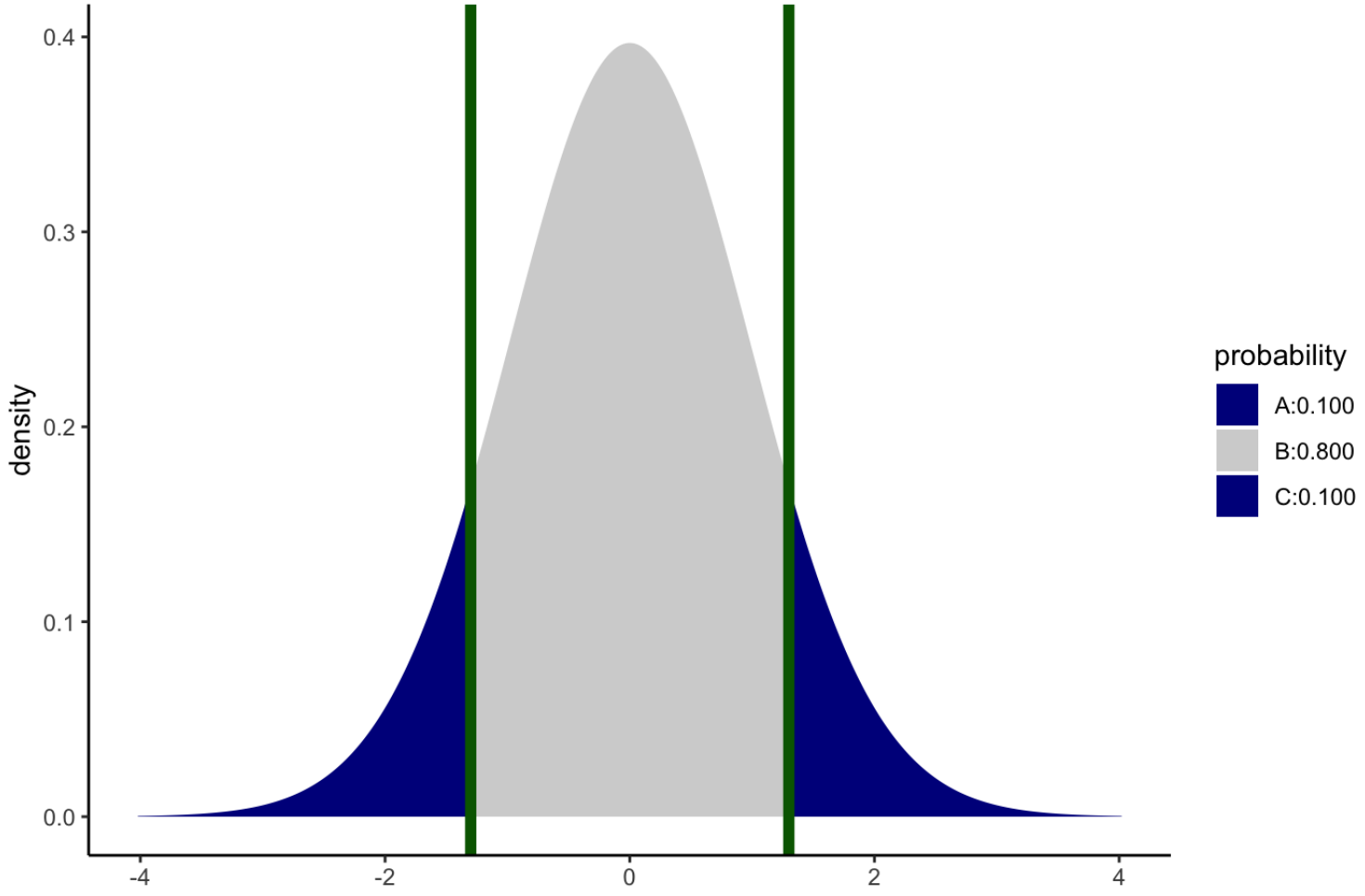

```
pt(tobs, df = n-1, lower.tail = TRUE)
```

If H_1: $\mu > \mu_0$ and tobs = $t = -1.3$, pvalue = B




```
pt(tobs, df = n-1, lower.tail = FALSE)
```

If H_1: $\mu \neq \mu_0$ and tobs = $t = -1.3$, pvalue = A+C




```
2 * pt(abs(tobs), df = n-1, lower.tail = FALSE)
```