

Tip for RHW 3

The difference between

I: `phyper(c(1), m=15, n=85, k=10, lower.tail = False)`

and

II: `1-phyper(c(0), m=15, n=85, k=10, lower.tail=True)`

One thing you have to pay attention (and I failed to mention in the instruction, sorry!) is

`lower.tail=True => P(X≤1)`

`lower.tail=False => P(X>1)`

Therefore, I. expression means  $P(X>1) = P(X\geq 2)$ , while II. expression is  $1-P(X\leq 0)$ . If you want these two to be equal ( $P(X\geq 1)$ ), it has to be set as

`phyper(c(0), m=15, n=85, k=10, lower.tail=False) <= P(X≥1)`

OR

`1-phyper(c(0), m=15, n=85, k=10, lower.tail=True) <= 1-P(X≤0) = P(X≥1)`

This fact applies to all other distributions as well. Hope this will solve your problem.