! This class has been made inactive. No posts will be allowed until an instructor reactivates the class.

question @29 stop following 12 views

Actions

gamma(200) = inf

I think it's only me.. but may I ask for help about what you did with gamma(n over 200) = inf ?

```
nateAlan <- function(gamm,delta){
  alpha<-exp(delta)*(exp(gamm)/(exp(gamm)+1))  #converting back to original alpha and beta
  beta<-exp(delta)/(exp(gamm)+1)
  10^308*(alpha+beta)^(-5/2)*
    prod((gamma(alpha+beta)*gamma(alpha+y)*gamma(beta+n-y))/(gamma(alpha)*gamma(beta)*gamma(alpha+beta+n)))*
    exp(2*delta+gamm)/(exp(gamm)+1)^2  # Jacobian
}
```

n for #13 are (74 99 58 70 122 77 104 129 308 119).. which makes results with gamma(n+~) Inf..
which.. is actually not infinite.
Maybe I can go with choose(alpha+beta, alpha)/choose(alpha+beta+n, alpha+y)
it seems to give me reasonable results with a bunch of warnings saying 'alpha+beta' are not integers..
But I am not sure whether I can ignore the warnings.. or not.

And again for #14.. I think I still need to put a function of gamma(alpha+n) which shows me Inf - again which is not.

Am I the only one who is struggling with this problem..?

hw3

Edit good question | 0 Updated 2 years ago by Jinyoung Park

S **the students' answer,** *where students collectively construct a single answer*

Actions

I forgot to post this earlier, but I believe this also works:

1. $\prod_{j=1}^{J} \frac{\Gamma(\alpha+\beta)}{\Gamma(\alpha)\Gamma(\beta)} \frac{\Gamma(\alpha+y_j)\Gamma(\beta+n_j-y_j)}{\Gamma(\alpha+\beta+y_j)}$
2. $\prod_{j=1}^{J} \frac{1}{B(\alpha,\beta)} B(\alpha+y_j, \beta+n_j-y_j)$

where $B(\alpha,\beta) = \frac{\Gamma(\alpha)\Gamma(\beta)}{\Gamma(\alpha+\beta)}$ is the beta function (not distribution). That part is then written in *R* as:
prod(beta(a+y,b+n-y)/beta(a,b))

Edit thanks! | 1 Updated 2 years ago by Charles Hwang

followup discussions *for lingering questions and comments*

Resolved Unresolved @29_f1

Gregory J. Matthews 2 years ago

The solution that we found for this was to use the lgamma function rather than gamma.

Then work with the logs, add and subtract everything, and then exponentiate at the very end.

good comment | 1

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