

Design Document for transferring PQL to C

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Abstract

This design document explains the process of transferring the `pql` function from R to C. This is being done to make the `glmm` package more efficient and faster. The function will be transferred to C in two separate parts: the inner optimization and the outer optimization.

1 .C

To transfer the `pql` package to C, the `.C` command will be used. This command takes all the arguments needed for the C function as inputs, and calls the C file. The C file is then executed, and at completion, returns the results back to R.

2 Inner

The first part to be transferred to C is the inner function. The inner function calculates the Hessian matrix, which is then used in the outer function optimization.