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#include <cula.h>
#include <stdlib.h>
#include <stdio.h>

int main(){

    culaStatus s;
    int info;
    char buf[256];

    float* A = (float *) malloc(20 * 20 * sizeof(float));
    memset(A, 0, 20*20*sizeof(float)); /* singular matrix, illegal for LU (getrf) */
    int ipiv[20];

    s = culaInitialize();
    if(s != culaNoError) {
        printf("%s\n", culaGetErrorInfo());
    }

    s = culaSgetrf(20, 20, A, 20, ipiv);

    if( s != culaNoError )
    {
        if( s == culaDataError )
            printf("Data error with code %d, please see LAPACK documentation\n", culaGetErrorInfo());
        else
        {
            info = culaGetErrorInfo(); culaGetErrorInfoString(s, info, buf, sizeof(buf));
            printf("%s", buf);
        }
    }

    culaShutdown();
}
```