What this code is about

The C++ code third.cpp computes the second term in equation (3.55)

$$\sum_{k=0}^{\infty} \frac{(-1)^k \mu_{-(2k+2)}}{\beta^k} = \sum_{k=0}^{\lfloor \frac{d}{2} \rfloor - 1} \frac{(-1)^k}{\beta^k} (A_{2k} + B_{2k} + C_{2k}) + \sum_{k=\lfloor \frac{d}{2} \rfloor}^{\infty} \frac{(-1)^k}{\beta^k} D_{2k}, \quad (1)$$

where $\lfloor x \rfloor$ is the floor function and the term A_k is given by

$$C_k = \sum_{m=k+1}^{d} c_m m! \sum_{l=k+1}^{m} \frac{(-1)^l \, \Gamma(l-k-\nu) 2^{l-k-\nu}}{(l!)^2 (m-l)!}, \quad (2)$$

The code requires the $d+1$ numbers c_m's as inputs. These are read-in from the file Constant.txt. The code outputs values for for $\beta = 10^{-5} - 10^{23}, 0.2$ and $\beta = 4$ and writes to the file THIRD.txt.

The file compile.job is a SLURM script to compile the code in an HPC and generate an executable.

The file together.job is a SLURM script to run the executable in an HPC.