**Code to run :**

>>> nohup python ./poisson\_2d.py > poisson\_2d.out &

Once the job is complete, type

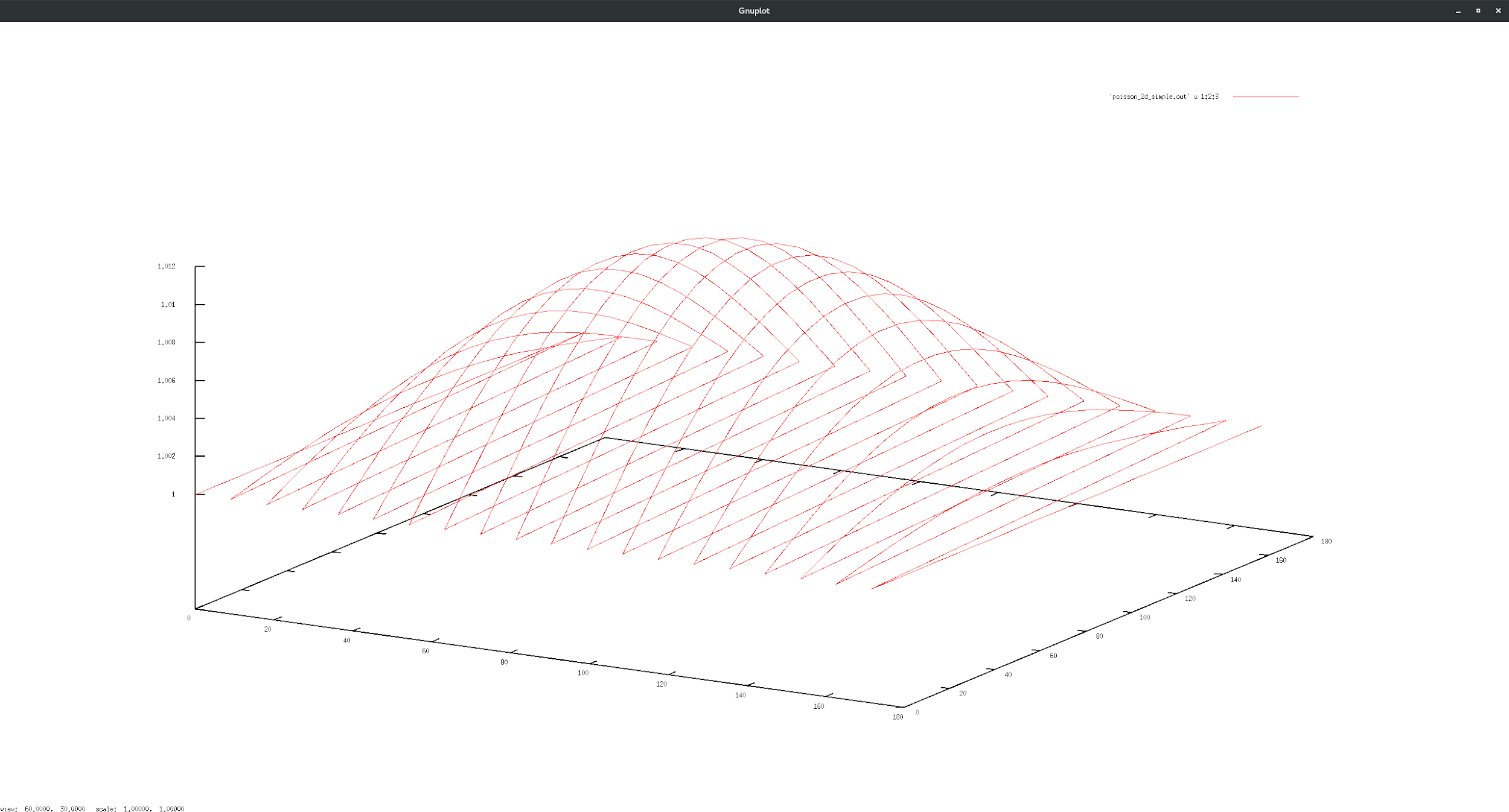
>>> gnuplot

>>> splot ‘poisson\_2d.out’ u 1:2:3 with lines

Poisson’s equation determines the geometry of the electric potential :

Where is equal to a unit elementary charge when inside a unit square centered at the origin. At the boundaries, .

We solve this by imposing boundary conditions and approximating via the Gauss-Seidel relaxation method.



Poisson’s equation dictates that the charge in the middle will cause an elevated hill in the potential at the unit square where the charge resides. On the edges, we have defined the boundary conditions as 1 volt.