Lab-20

1. In the problem we will try and find the fringing field of a capacitor (in a very simplified effectively 2D geometry).

   Consider a two parallel plates lying in the x-z plane with an extention a along the x direction and has an extention of length b in the z direction. The separation between the plates is d.

   The top plate is kept at 1 volt and the bottom place is at -1 volt with resepect to infinity. If a = 2 units, d = 0.5 units and b is given to much larger than a, compute the electrostratic potential in the vicinity of the plates in all regions but away from the edge parallel to x axis. This latter condition should allow you to reduce it to a 2D problem.

   Use finite differencing and SOR method to work out the potential.