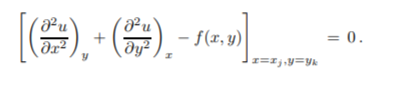
**Abstract**

For the semester project I chose to implement Poisson’s equation in two dimensions. This equation is a partial differential equation that is used for finding electric potentials or gravitational fields. This equation is commonly used by mechanical engineers and physicists. For the version of the Poisson equation, that I covered for the project, there were boundary conditions that surround the entire section and a function used to help solve for the values at each position. The boundary conditions consisted of three Dirichlet boundaries and one Neuman boundary condition. The Neuman condition occurred when y was at the maximum distance 2π and required a ghost node to solve for the values at the boundary.

**Mathematical Statement of the Problem**



The spacing for each point is the same for both x and y axis.

**Discretized Version of the Problem**

