

Advance Numerical Technique Laboratory

Lab 9

Q.1 Solve using Line by Line Algorithm

$$d^2u/dx^2 + d^2u/dy^2 = x^2 + y^2$$

$$u(x, y) = 0 \text{ for } 0 \leq x, y \leq 1$$

$$h = 1/4$$

Solution :-

u =

0	0	0	0	0
0	-0.0142	-0.0246	-0.0254	0
0	-0.0246	-0.0391	-0.0379	0
0	-0.0254	-0.0379	-0.0366	0
0	0	0	0	0

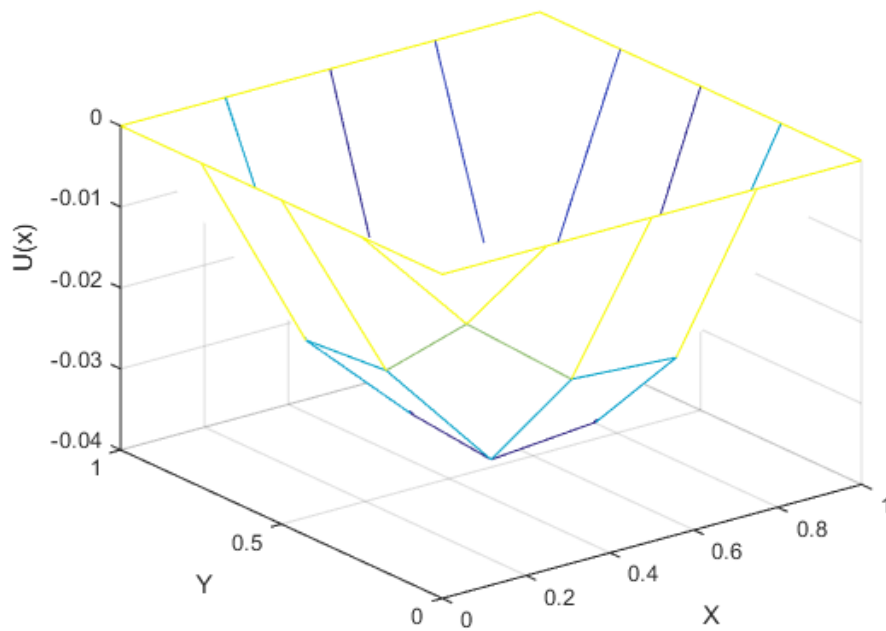


Fig1: Final Plot