



INDIAN INSTITUTE OF TECHNOLOGY
KHARAGPUR

APPLIED COMPUTATIONAL METHODS LABORATORY

Lab-Report-1

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All Script file and output files are also present in the same folder as that of this Document.

1) Construct P,L,U and find value of y and x

Ans)

P=

1	0	0
0	1	0
0	0	1

L=

1.0000	0	0
0.6015	1.0000	0
0.0016	-8949	1.0000

U =

12.0000	-44.6490	25.0368
0	150.0696	-56.6282
0	0	-48.4526

y=

3.0008
13.1130
4.6959

x=

0.6413
0.0508
-0.0969

2) Find Matrix For negative of 2D Laplace Operator for inner nodes N=12 and N=20

Since the matrix generated A12 and A20 would be of the order 144x144 and 400x400, have generated their result in an excel sheet which has been linked here.

[Link](#)