Output:

```
C:\csit\third sem Jonash\NM\
        ->Compiled by Jonash Chataut<-
        ->Cholesky_Decomposition
Enter the order of matrix (i.e. n x n): 3
Enter the elements of the matrix (row-wise):
1       4       7
4       80      44
7       44      89
Lower triangular matrix L (Cholesky factor):
  1.0000   0.0000   0.0000
  4.0000   8.0000   0.0000
  7.0000   2.0000   6.0000

--------------------------------
Process exited after 22.93 seconds with return value 0
Press any key to continue . . .
```

Output:

```
C:\csit\third sem Jonash\NM\
        ->Compiled by Jonash Chataut<-
        ->Gauss_elimination
Enter number of equations: 3
Enter the augmented matrix(i.e [A|B]):
1       -3      1       4
2       -8      8       -2
-6      3       -15     9

Solution:
x[1] = 3.000
x[2] = -1.000
x[3] = -2.000

--------------------------------
Process exited after 38.75 seconds with return value 0
Press any key to continue . . .
```

Output:

```
C:\csit\third sem Jonash\NM\

        ->Compiled by Jonash Chataut<-
        ->Gauss_Jordan
Enter the number of variables: 3
Enter the augmented matrix (i.e [A|B])
2       -1      4       15
2       3       -2      1
3       2       -4      -4

Initial Augmented Matrix:
  2.0000  -1.0000   4.0000  15.0000
  2.0000   3.0000  -2.0000   1.0000
  3.0000   2.0000  -4.0000  -4.0000

Step 1:
  1.0000  -0.5000   2.0000   7.5000
  0.0000   4.0000  -6.0000 -14.0000
  0.0000   3.5000 -10.0000 -26.5000

Step 2:
  1.0000   0.0000   1.2500   5.7500
  0.0000   1.0000  -1.5000  -3.5000
  0.0000   0.0000  -4.7500 -14.2500

Step 3:
  1.0000   0.0000   0.0000   2.0000
  0.0000   1.0000   0.0000   1.0000
 -0.0000  -0.0000   1.0000   3.0000

The solution is:
x1 = 2.0000
x2 = 1.0000
x3 = 3.0000

--------------------------------
Process exited after 28.93 seconds with return value 0
Press any key to continue . . .
```

Output: Gauss Partial Pivoting

```
C:\csit\third sem Jonash\NM\
        ->Compiled by Jonash Chataut<-
Enter the number of equations: 3
Enter the coefficients of the matrix A (3x3):
2       1       1
4       -6      0
-2      7       2
Enter the constants vector b (3 values):
5
-2
9

Solution Vector x:
x[0] = 1.0000
x[1] = 1.0000
x[2] = 2.0000

--------------------------------
Process exited after 24.94 seconds with return value 0
Press any key to continue . . .
```

Output:

```
C:\csit\third sem Jonash\NM\
        ->Compiled by Jonash Chataut<-
        ->Jacobi Iteration
Enter the number of equations: 3
Enter the augmented matrix [A|B]
5       -2      3       -1
-3      9       1       2
2       -1      -7      3
Enter initial guess values:
x[1]: 0
x[2]: 0
x[3]: 0

Iter    x[1]            x[2]            x[3]
1       -0.200000       0.222222        -0.428571
2       0.146032        0.203175        -0.517460
3       0.191746        0.328395        -0.415873
4       0.180882        0.332346        -0.420700
5       0.185359        0.329261        -0.424369
6       0.186326        0.331160        -0.422649
7       0.186054        0.331292        -0.422644

Solution:
x[1] = 0.186054
x[2] = 0.331292
x[3] = -0.422644

--------------------------------
Process exited after 52.59 seconds with return value 0
Press any key to continue . . .
```