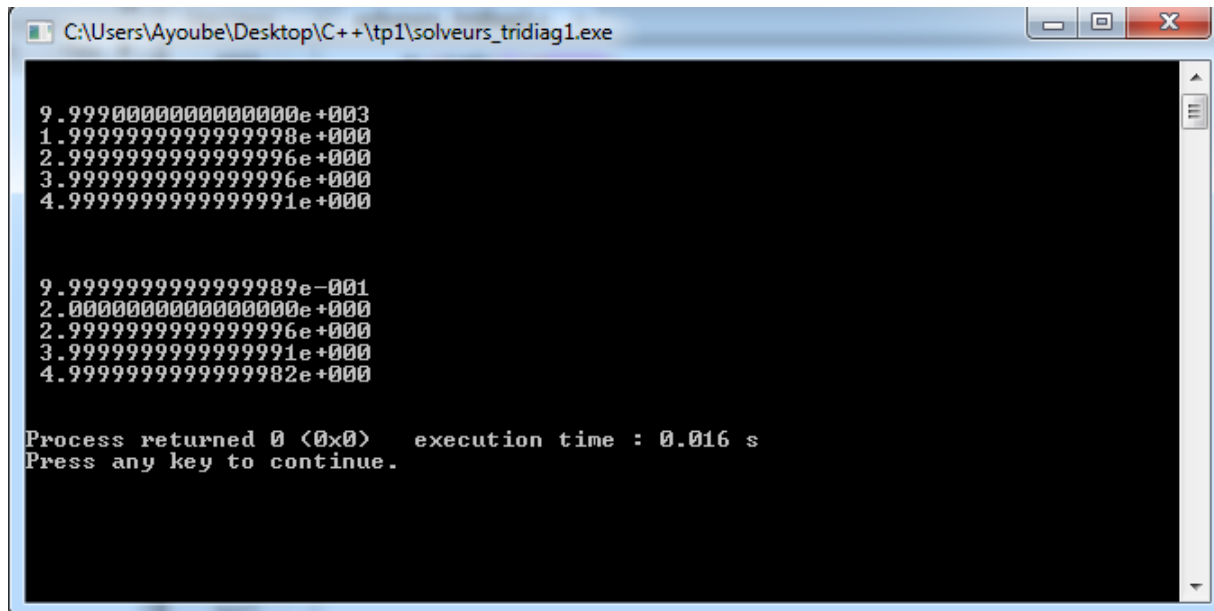


## TP : 1

J'ai réussi à implémenter toutes les fonctions demandées j'ai mis en commentaire en « /\* \*/ » les tests il suffira de les enlever pour exécuter les différents tests pour les fonctions implémentées.

1-Resolution par `Solveur_LU_TriDiag(dA, lA, uA, b, x);` `Solveur_Chol_TriDiag(dA,lA,b,x);`



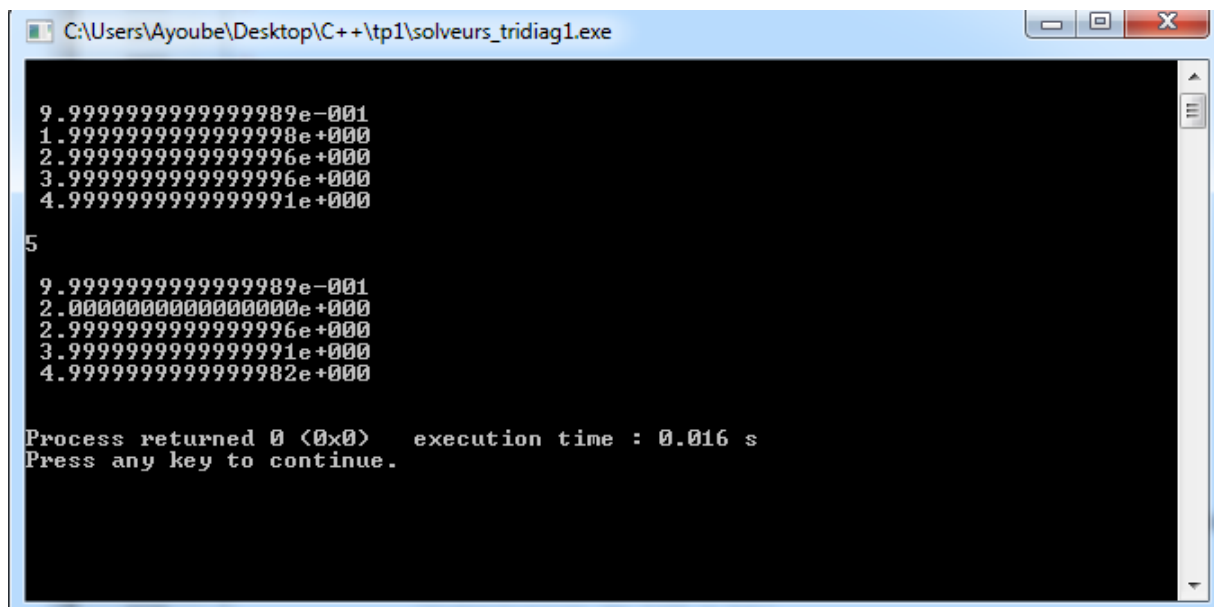
```
C:\Users\Ayoub\ Desktop\C++\tp1\solveurs_tridiag1.exe

9.9990000000000000e+003
1.9999999999999998e+000
2.9999999999999996e+000
3.9999999999999996e+000
4.9999999999999991e+000

9.9999999999999989e-001
2.0000000000000000e+000
2.9999999999999996e+000
3.9999999999999991e+000
4.9999999999999982e+000

Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

2-Resolution par `Solveur_LU_TriDiag1(A,b,x);` `Solveur_Chol_TriDiag1(A,b,x);` (dans le cas où A est General)



```
C:\Users\Ayoub\ Desktop\C++\tp1\solveurs_tridiag1.exe

9.9999999999999989e-001
1.9999999999999998e+000
2.9999999999999996e+000
3.9999999999999996e+000
4.9999999999999991e+000
5

9.9999999999999989e-001
2.0000000000000000e+000
2.9999999999999996e+000
3.9999999999999991e+000
4.9999999999999982e+000

Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

3-Resolution par `Solveur_LU_TriDiag1(A,b,x);` ( pour une matrice de type 'L' ) :

```
C:\Users\Ayoub\\Desktop\C++\tp1\solveurs_tridiag1.exe

1.0000000000000000e+000
1.0000000000000000e+000
1.0000000000000000e+000

Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

4-Resolution par la méthode Solveur\_LU\_TriDiag1(A,b,x); ( pour une matrice de Type 'U')

```
C:\Users\Ayoub\\Desktop\C++\tp1\solveurs_tridiag1.exe

5.0000000000000000e+000
1.0000000000000000e+000
1.0000000000000000e+000

Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

5-Resolution par la méthode Solveur\_LU\_TriDiag1( A, b, x);Solveur\_Chol\_TriDiag1( A, b, x);( dans le cas d'une matrice symétrique)

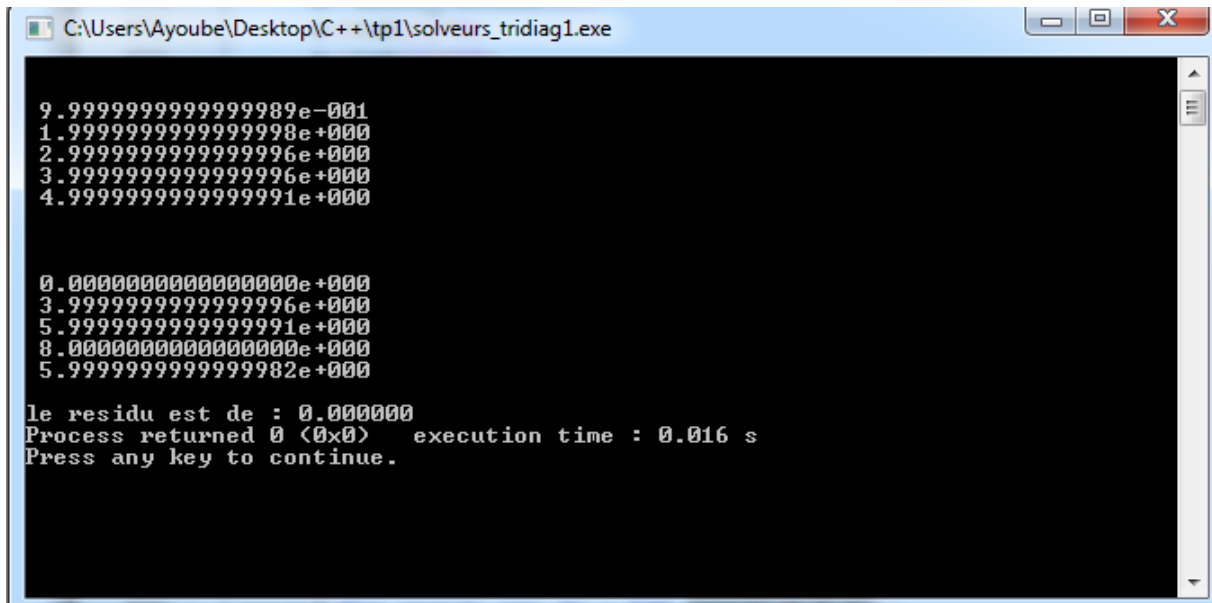
```
C:\Users\Ayoub\\Desktop\C++\tp1\solveurs_tridiag1.exe

9.999999999999999e-001
1.999999999999998e+000
2.999999999999996e+000
3.999999999999996e+000
4.999999999999991e+000

9.999999999999999e-001
2.000000000000000e+000
2.999999999999996e+000
3.999999999999991e+000
4.999999999999982e+000

Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```

6-Resolution et vérification de notre fonction produit\_tridiag\_vecteur(A,x,Y); et notre fonction residu(b,A,x)



```
C:\Users\Ayoubé\Desktop\C++\tp1\solveurs_tridiag1.exe

9.99999999999999989e-001
1.99999999999999998e+000
2.99999999999999996e+000
3.99999999999999996e+000
4.99999999999999991e+000

0.00000000000000000e+000
3.99999999999999996e+000
5.99999999999999991e+000
8.00000000000000000e+000
5.99999999999999982e+000

le residu est de : 0.000000
Process returned 0 (0x0)   execution time : 0.016 s
Press any key to continue.
```