VÍ DỤ TEST

Phương pháp Gauss Seidel giải Ax = b

1, Ma trận chéo trội hàng

Input:

```
4
4 0.24 0.08 0.16
1 4 -0.9 -0.8
0.5 -0.8 5 1.4
0.02 0.06 0.04 -10
8 -9 10 1
1e-7
```

Output:

```
Ma tran Ax = b ban dau:
    4.0000    0.2400    0.0800    0.1600  |    8.0000
    1.0000    4.0000   -0.9000   -0.8000  |   -9.0000
    0.5000   -0.8000    5.0000    1.4000  |   10.0000
    0.0200    0.0600    0.0400  -10.0000  |    1.0000

Ma tran da cho cheo troi hang
Ta dua ve ma tran dang sau x = Cx + D:
    0.0000   -0.0600   -0.0200   -0.0400  |    2.0000
   -0.2500    0.0000    0.2250    0.2000  |   -2.2500
   -0.1000    0.1600    0.0000   -0.2800  |    2.0000
    0.0020    0.0060    0.0040    0.0000  |   -0.1000

Lan lap thu 1:
x1= 2.0000000000
x2= -2.7500000000
x3= 1.3600000000
x4= -0.1070600000
Sai so = 3.5961538462
```

```
Nghiem cua phuong trinh la:
x1= 2.1247708920
x2= -2.4827600940
x3= 1.4196724279
x4= -0.1049683291

So lan lap: 8
He so co: lamda = 0.5666666667
Sai so cuoi cung la: 0.0000000352
```

2, Ma trận chéo trội cột

Input:

```
4
4 0.24 0.08 4.16
1 4 -0.9 -0.8
0.5 -0.8 5 1.4
0.02 0.06 0.04 -10
8 -9 10 1
1e-7
```

Output:

```
Ma tran Ax = b ban dau:
    4.0000    0.2400    0.0800    4.1600  |    8.0000
    1.0000    4.0000   -0.9000   -0.8000  |   -9.0000
    0.5000   -0.8000    5.0000    1.4000  |   10.0000
    0.0200    0.0600    0.0400  -10.0000  |    1.0000

Ma tran da cho cheo troi cot
Ta dua ve ma tran dang sau y = Cy + D:
    0.0000   -0.0600   -0.0160    0.4160  |    8.0000
   -0.2500    0.0000    0.1800   -0.0800  |   -9.0000
   -0.1250    0.2000    0.0000    0.1400  |   10.0000
   -0.0050   -0.0150   -0.0080    0.0000  |    1.0000

Lan lap thu 1:
x1= 2.0000000000
x2= -2.7500000000
x3= 1.3600000000
x4= -0.1070600000
Sai so = 75.7253704360
```

```
Nghiem cua phuong trinh la:
x1= 2.2318982732
x2= -2.5130466856
x3= 1.4041221416
x4= -0.1049979950

So lan lap: 9
He so co: zeta = 0.6360000000
Sai so cuoi cung la: 0.0000000487
```

3, Ma trận không chéo trội

Input:

```
4
4 0.24 0.08 4.16
1 4 -0.9 -0.8
0.5 -0.8 5 1.4
4.02 0.06 0.04 -10
8 -9 10 1
1e-7
```

Output:

```
Ma tran Ax = b ban dau:
    4.0000    0.2400    0.0800    4.1600   |    8.0000
    1.0000    4.0000   -0.9000   -0.8000   |   -9.0000
    0.5000   -0.8000    5.0000    1.4000   |   10.0000
    4.0200    0.0600    0.0400  -10.0000   |    1.0000

Ma tran khong cheo troi, can tim phuong phap khac
```