```
commandwindow
clear
clc
close all
A = [10 -2 1
    -2 10 -2
    -2 -5 10]
B = [9; 12; 18]
% M = [m1; m2; m3]
C = [0 -A(1,2)/A(1,1) -A(1,3)/A(1,1)
    -A(2,1)/A(2,2) 0 -A(2,3)/A(2,2)
    -A(3,1)/A(3,3) -A(3,2)/A(3,3) 0]
D = [B(1,1)/A(1,1); B(2,1)/A(2,2); B(3,1)/A(3,3)]
M = [0;0;0]
for i =1:10
    Normb = norm(M)
M = C*M + D
Norma = norm(M)
error = abs(Norma - Normb)
  if error <= 1E-15
      break
  end
end
M'
error'
tableau = [M' error']
```

Answer

A =

10	-2	1
-2	10	-2
-2	-5	10

B =

9

12

18

C =

0	0.2	-0.1
0.2	0	0.2
0.2	0.5	0

D =

0.9
1.2
1.8

M =

0
0
0

Normb =

0

M =

```
    0.9
    1.2
    1.8


Norma =

    2.3431


error =

    2.3431


Normb =

    2.3431


M =

    0.96
    1.74
    2.58


Norma =
```

3.2566

error =

0.91355

Normb =

3.2566

M =

0.99
1.908
2.862

Norma =

3.5793

error =

0.32271

```
Normb =

    3.5793


M =

    0.9954
    1.9704
    2.952


Norma =

    3.6861


error =

    0.10681


Normb =

    3.6861


M =
```

```
    0.99888
     1.9895
     2.9843


Norma =

     3.7231


error =

    0.036997


Normb =

     3.7231


M =

    0.99947
     1.9966
     2.9945


Norma =
```

```
    3.7353


error =

   0.012185


Normb =

    3.7353


M =

    0.99987
    1.9988
    2.9982


Norma =

    3.7395


error =

   0.0042271
```

```
Normb =

    3.7395


M =

   0.99994
    1.9996
    2.9994


Norma =

    3.7409


error =

  0.0013884


Normb =

    3.7409
```

```
M =

    0.99999
     1.9999
     2.9998


Norma =

    3.7414


error =

   0.0004829


Normb =

    3.7414


M =

    0.99999
          2
     2.9999
```

```
Norma =

    3.7416


error =

  0.00015816


ans =

    0.99999         2    2.9999


ans =

  0.00015816


tableau =

    0.99999         2    2.9999  0.00015816

>>
```