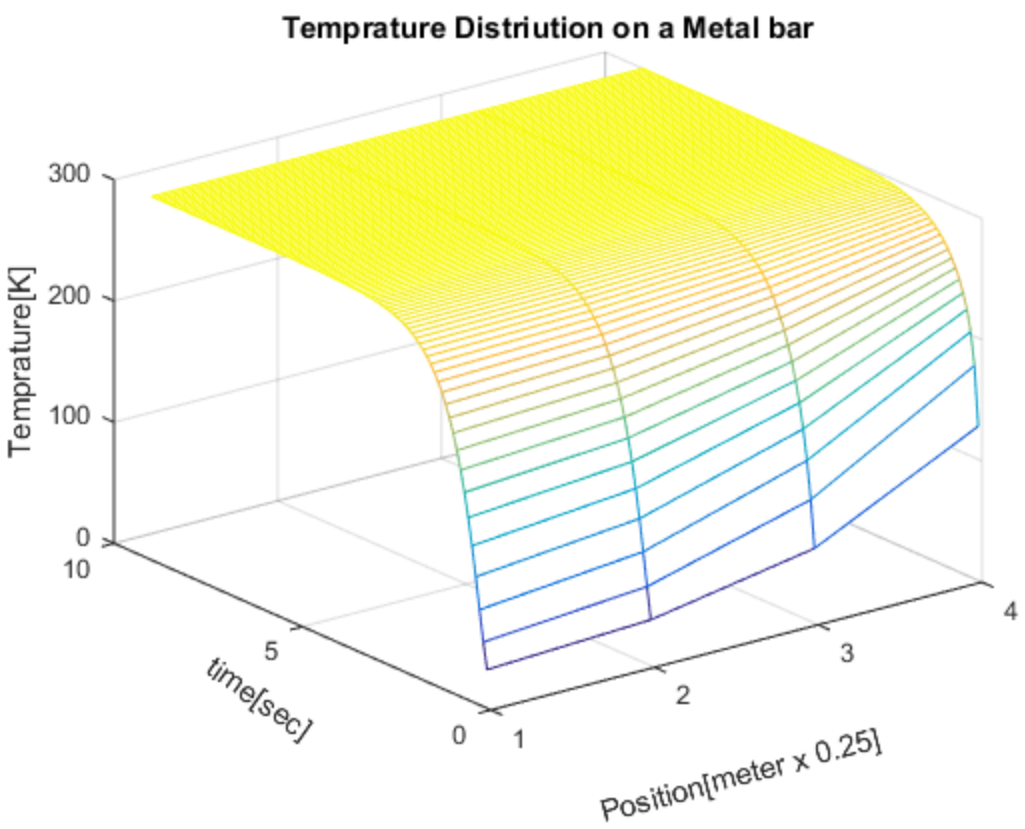
```
clear
clc;
x(1:4)=20;
time=0;
timef=9;
a(2:4)=1;
b(1)=-1.5;
b(2:4)=-3;
c(1:3)=1;
    display('THE SOLUTION BY TDMA AT TIME seconds');
   fprintf('%3s %5s %10s %10s %10s\n','Time','T1','T2','T3','T4')
   count=1;
    hh=ones(30,4);
for time=0.1:0.1:timef
    xold=x;
    d(1)=-0.5*xold(1);
    d(2)=-xold(2);
    d(3)=-xold(3);
    d(4)=-xold(4)-300;
    i=1;
    n=4;
    beta(i)=b(i);
    gamma(i)=d(i)/beta(i);
    il=i+1;
    for j=il:n
        beta(j)=b(j)-a(j)*c(j-1)/beta(j-1);
        gamma(j)=(d(j)-a(j)*gamma(j-1))/beta(j);
    end
    x(n)=gamma(n);
    n1=n-i;
    for k=1:n1
        j=n-k;
        x(j)=gamma(j)-c(j)*x(j+1)/beta(j);
    end
%     display(['THE SOLUTION BY TDMA AT TIME
 ',num2str(time),'seconds'])
  fprintf('%3g', time); fprintf('  %8.4f', x(1)); fprintf('   %8.4f',
 x(2));
  fprintf('   %8.4f', x(3)); fprintf('   %8.4f', x(4));
    fprintf('\n');
%     tt(count)=time;
%     temp(count).tt=[x(1),x(2),x(3),x(4)];
    hh(count,1:4)=[x(1),x(2),x(3),x(4)];
    count=count+1;
end

[tkt,llent]=meshgrid(1:1:n,0.1:0.1:timef);
    mesh(tkt,llent,hh)
%     xlim([0 1]);
    title('Temprature Distriution on a Metal bar')
    xlabel('Position[meter x 0.25]','Rotation',15)
    ylabel('time[sec]','Rotation',-35)
```

```
    zlabel('Temprature[K]')
%     surf(hh)
```

THE SOLUTION BY TDMA AT TIME seconds

Time	T1	T2	T3	T4
0.1	31.9149	37.8723	61.7021	127.2340
0.2	53.2096	63.8569	100.4889	175.9077
0.3	78.5928	91.2844	131.4034	202.4370
0.4	104.3467	117.2236	156.0398	219.4923
0.5	128.5549	140.6590	176.1986	231.8970
0.6	150.4507	161.3986	193.0861	241.6610
0.7	169.8656	179.5730	207.4548	249.7053
0.8	186.9039	195.4231	219.7923	256.4992
0.9	201.7767	209.2131	230.4394	262.3129
1	214.7230	221.1962	239.6525	267.3218
1.1	225.9762	231.6028	247.6359	271.6526
1.2	235.7503	240.6374	254.5591	275.4039
1.3	244.2365	248.4796	260.5650	278.6563
1.4	251.6031	255.2863	265.7763	281.4775
1.5	257.9970	261.1939	270.2985	283.9253
1.6	263.5464	266.3211	274.2230	286.0495
1.7	268.3628	270.7709	277.6289	287.8928
1.8	272.5428	274.6328	280.5848	289.4925
1.9	276.1706	277.9845	283.1500	290.8809
2	279.3191	280.8933	285.3764	292.0857
2.1	282.0516	283.4178	287.3085	293.1314
2.2	284.4230	285.6087	288.9854	294.0389
2.3	286.4811	287.5102	290.4407	294.8266
2.4	288.2673	289.1604	291.7037	295.5101
2.5	289.8175	290.5926	292.7999	296.1033
2.6	291.1629	291.8356	293.7512	296.6182
2.7	292.3305	292.9143	294.5768	297.0650
2.8	293.3438	293.8505	295.2934	297.4528
2.9	294.2233	294.6630	295.9152	297.7893
3	294.9865	295.3682	296.4550	298.0814
3.1	295.6490	295.9802	296.9233	298.3349
3.2	296.2238	296.5113	297.3299	298.5549
3.3	296.7228	296.9722	297.6826	298.7459
3.4	297.1558	297.3723	297.9888	298.9116
3.5	297.5316	297.7195	298.2546	299.0554
3.6	297.8577	298.0208	298.4852	299.1802
3.7	298.1408	298.2823	298.6853	299.2885
3.8	298.3864	298.5092	298.8590	299.3825
3.9	298.5996	298.7062	299.0098	299.4641
4	298.7846	298.8772	299.1406	299.5349
4.1	298.9452	299.0255	299.2542	299.5964
4.2	299.0846	299.1543	299.3527	299.6497
4.3	299.2055	299.2660	299.4382	299.6960
4.4	299.3105	299.3630	299.5125	299.7361
4.5	299.4016	299.4472	299.5769	299.7710
4.6	299.4807	299.5202	299.6328	299.8013
4.7	299.5493	299.5836	299.6813	299.8275
4.8	299.6088	299.6386	299.7234	299.8503
4.9	299.6605	299.6864	299.7600	299.8701

5	299.7054	299.7278	299.7917	299.8873
5.1	299.7443	299.7638	299.8192	299.9021
5.2	299.7781	299.7950	299.8431	299.9151
5.3	299.8074	299.8221	299.8638	299.9263
5.4	299.8329	299.8456	299.8818	299.9360
5.5	299.8549	299.8660	299.8974	299.9445
5.6	299.8741	299.8837	299.9110	299.9518
5.7	299.8907	299.8991	299.9227	299.9582
5.8	299.9052	299.9124	299.9329	299.9637
5.9	299.9177	299.9240	299.9418	299.9685
6	299.9286	299.9340	299.9495	299.9727
6.1	299.9380	299.9427	299.9562	299.9763
6.2	299.9462	299.9503	299.9620	299.9794
6.3	299.9533	299.9569	299.9670	299.9821
6.4	299.9595	299.9626	299.9713	299.9845
6.5	299.9648	299.9675	299.9751	299.9865
6.6	299.9695	299.9718	299.9784	299.9883
6.7	299.9735	299.9755	299.9813	299.9899
6.8	299.9770	299.9788	299.9837	299.9912
6.9	299.9800	299.9816	299.9859	299.9924
7	299.9827	299.9840	299.9878	299.9934
7.1	299.9850	299.9861	299.9894	299.9942
7.2	299.9870	299.9880	299.9908	299.9950
7.3	299.9887	299.9895	299.9920	299.9957
7.4	299.9902	299.9909	299.9931	299.9962
7.5	299.9915	299.9921	299.9940	299.9967
7.6	299.9926	299.9932	299.9948	299.9972
7.7	299.9936	299.9941	299.9955	299.9975
7.8	299.9944	299.9949	299.9961	299.9979
7.9	299.9952	299.9955	299.9966	299.9981
8	299.9958	299.9961	299.9970	299.9984
8.1	299.9964	299.9966	299.9974	299.9986
8.2	299.9968	299.9971	299.9978	299.9988
8.3	299.9973	299.9975	299.9981	299.9990
8.4	299.9976	299.9978	299.9983	299.9991
8.5	299.9979	299.9981	299.9985	299.9992
8.6	299.9982	299.9983	299.9987	299.9993
8.7	299.9984	299.9986	299.9989	299.9994
8.8	299.9986	299.9988	299.9990	299.9995
8.9	299.9988	299.9989	299.9992	299.9996
9	299.9990	299.9991	299.9993	299.9996



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