

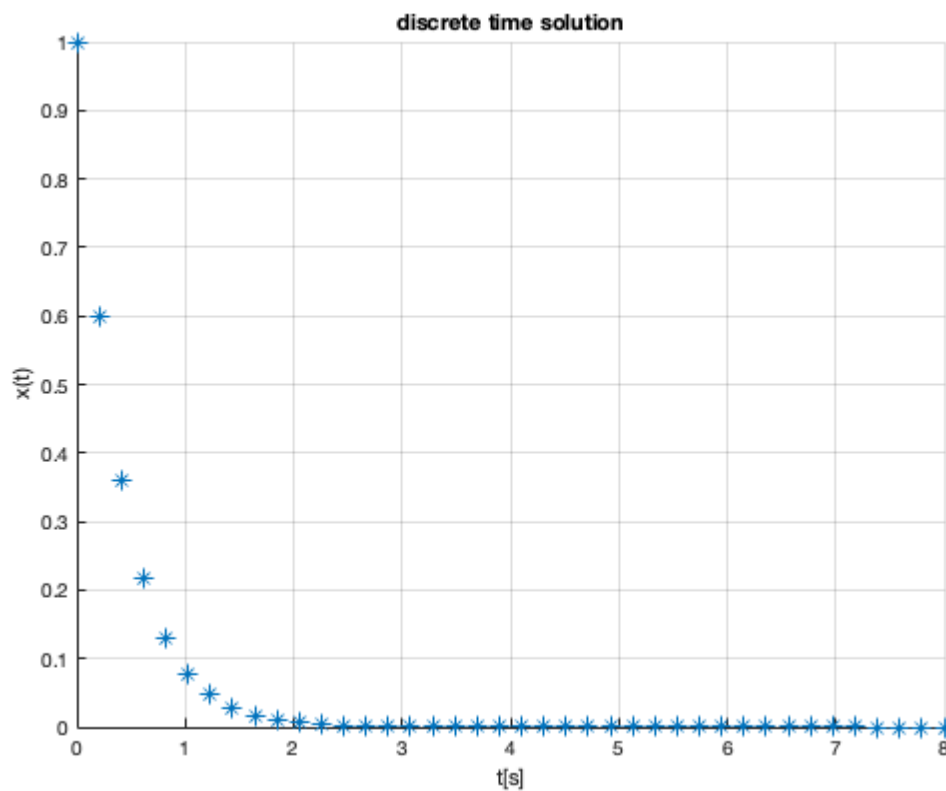
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PART 1

```
k = linspace(0,40,40);
x_k_1 = zeros(40,1);
x_k_1(1) = 1;
t = k*0.2;
for n=2:40;

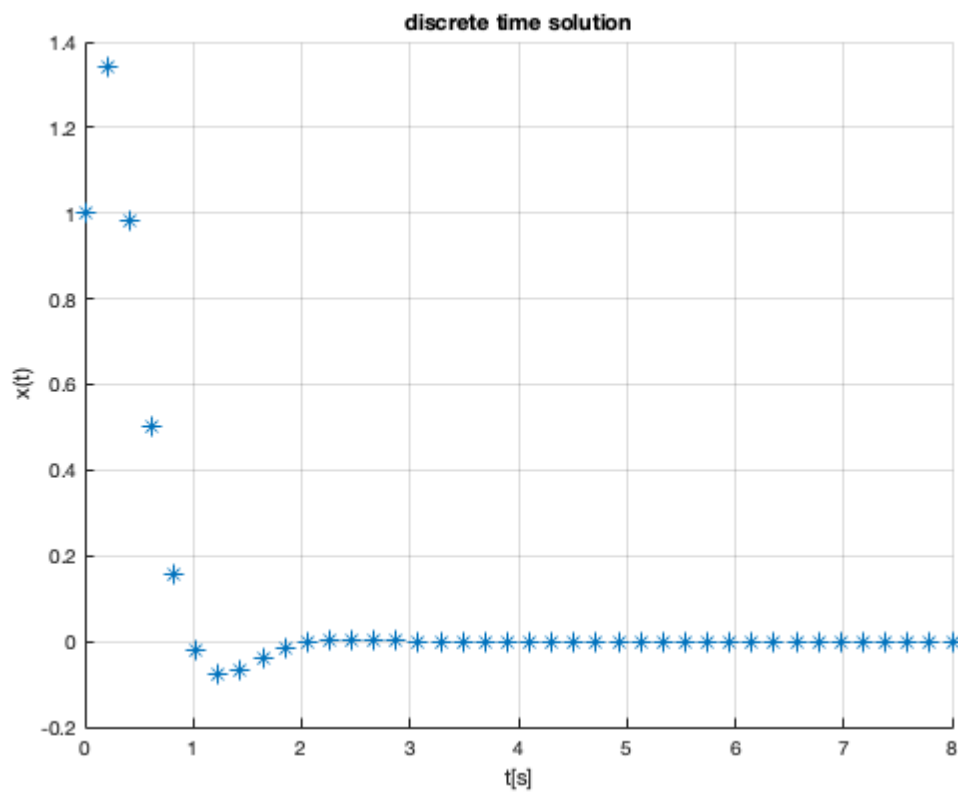
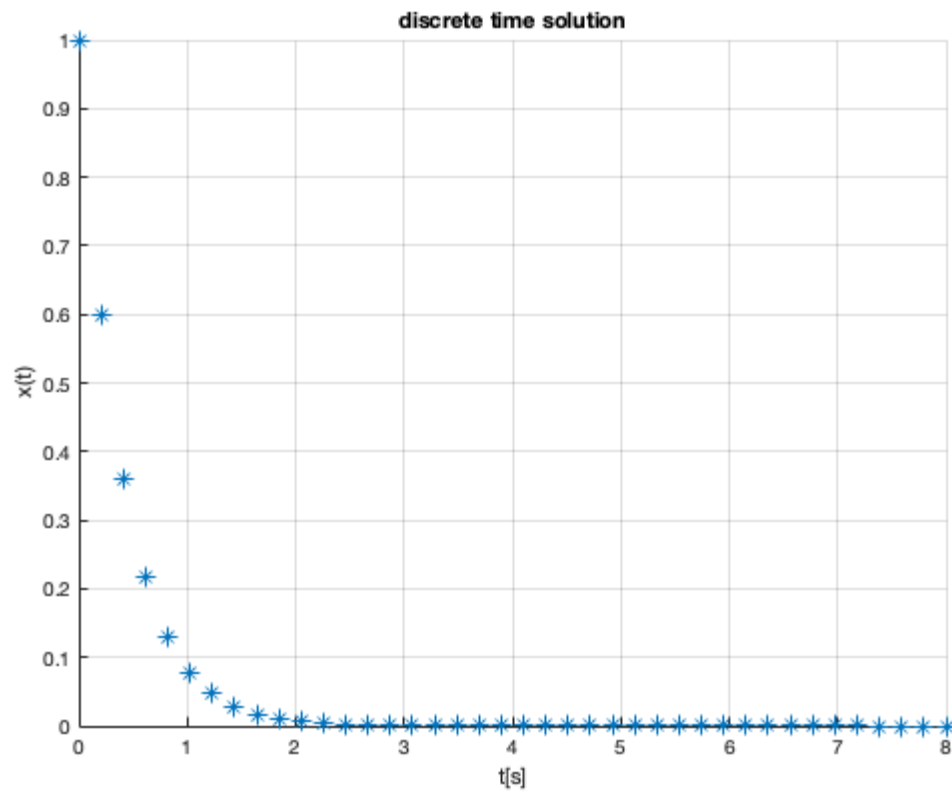
    x_k_1(n) = 0.6*x_k_1(n-1);
end
figure
scatter(t,x_k_1, '*')
ylabel('x(t)')
xlabel('t[s]')
title('discrete time solution')
grid on
```



PART 2

```
x_k_2 = zeros(40,1);
x_k_2(1) = 1;
x_k_2(2) = 1.342;
for n=2:39;
```

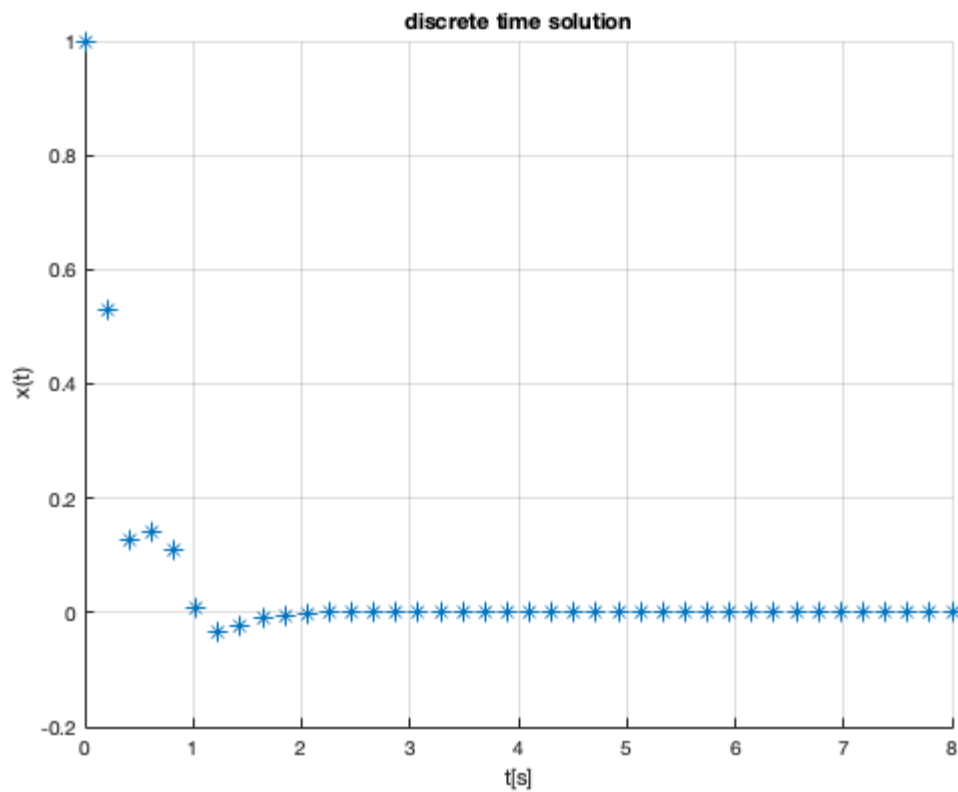
```
    x_k_2(n+1) = 0.992*x_k_2(n)-0.350*x_k_2(n-1);  
end  
figure  
scatter(t,x_k_2,'*')  
ylabel('x(t)')  
xlabel('t[s]')  
title('discrete time solution')  
grid on
```



Part 3

```
x_k_3 = zeros(40,1);  
x_k_3(1) = 1;  
x_k_3(2) = 0.53;
```

```
for n=2:39;  
    x_k_3(n+1) = 0.28*x_k_2(n)-0.25*x_k_3(n-1);  
end  
figure  
scatter(t,x_k_3,'*')  
ylabel('x(t)')  
xlabel('t[s]')  
title('discrete time solution')  
grid on
```



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