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```
% Given step size h = 0.5 and Interval is [0,2]
```

```
%Step Size  
h = 0.5;
```

values

```
x = 0:h:2;  
y1 = zeros(5,1);  
y2 = zeros(5,1);  
  
% Given Initial values  
y1(1) = 4;  
y2(1) = 6;
```

Function Handles

```
%here f is dy1/dx and g is dy2/dx  
  
f =@(Y1) -0.5*Y1;  
g =@(x,Y1,Y2) 4 - 0.3*Y2 -0.1*Y1;  
  
% Upon Integrating the given functions we the values of y1 and y2 in  
the  
% given interval
```

loop for Euler's method

```
for i=1:4  
    y1(i+1) = y1(i) + h*f(y1(i));  
    y2(i+1) = y2(i) + h*g(x(i),y1(i),y2(i));  
end
```

plots

```
plot(x,y1)  
hold on;  
grid minor;
```

```
plot(x,y2);
xlabel('X values');
ylabel('Y values');
legend('y1','y2');
title('Q27 Eulers Method');
hold off;
x
y1
y2
```

```
x =
```

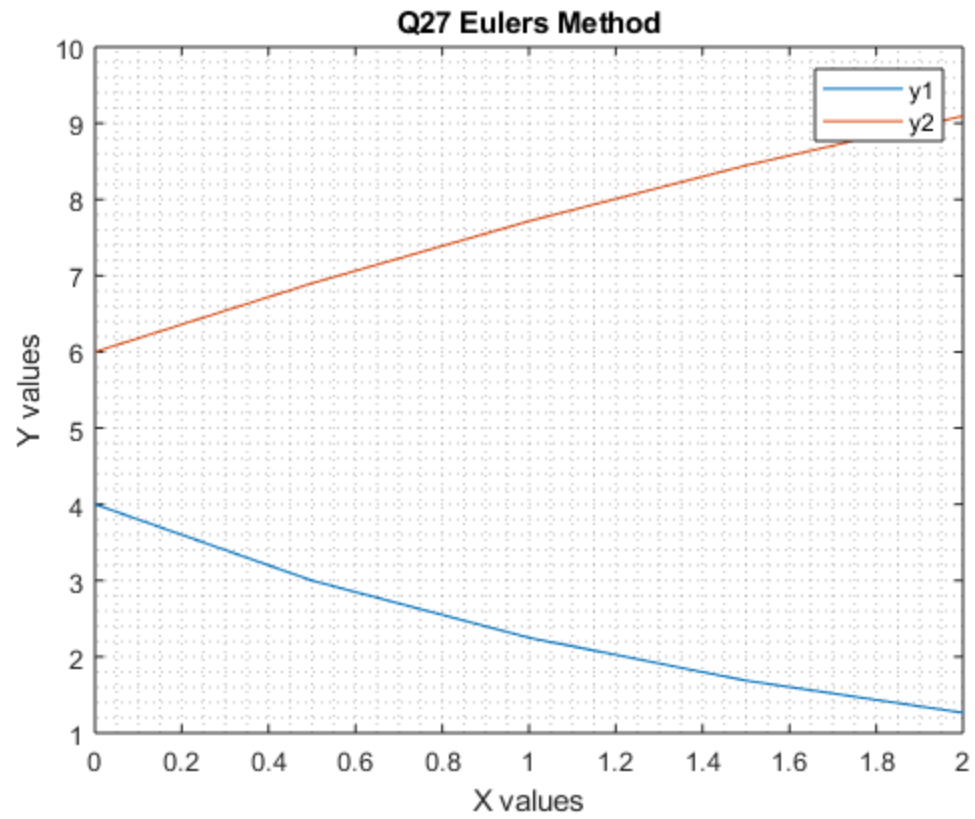
```
0    0.5000    1.0000    1.5000    2.0000
```

```
y1 =
```

```
4.0000
3.0000
2.2500
1.6875
1.2656
```

```
y2 =
```

```
6.0000
6.9000
7.7150
8.4453
9.0941
```



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