



NAME OF EXERCISE : Ordinary differential equation

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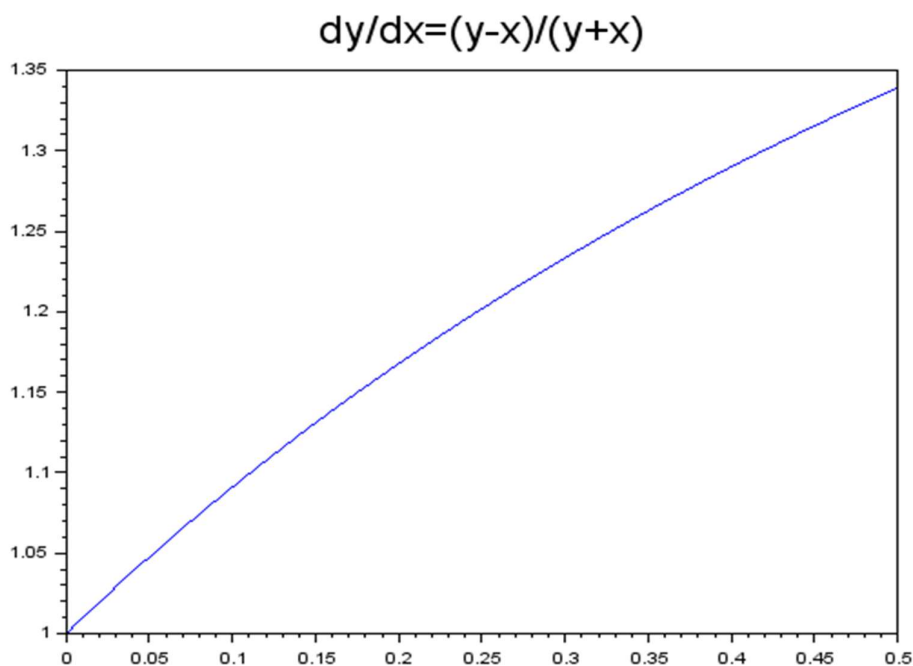
DATE : 09-08-2021

QUESTION: $\frac{dy}{dx} = \frac{y-x}{y+x}$ with initial condition $y(0)=1$ and find $y(0.5)$. Also plot graph of y .

CODE:

```
function ydot=f(x, y)
ydot=(y-x)/(y+x)
endfunction
y0=1;x0=0;x=0.5;
y=ode(y0,x0,x,f)
disp("y=",y)
x=0:0.01:0.5
y=ode(y0,x0,x,f)
plot(x,y)
title('dy/dx=(y-x)/(y+x)', 'fontsize', 5)
```

OUTPUT: $y=1.339209$





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Scilab 6.1.0 Console

Startup execution:

loading initial environment

```
--> exec('C:\Users\AYUSH JAIN\OneDrive\Desktop\sssss3.sce', -1)
```

"y="

1.3392090

-->

