Eric Wan - ezw23@drexel.edu - Homework 2
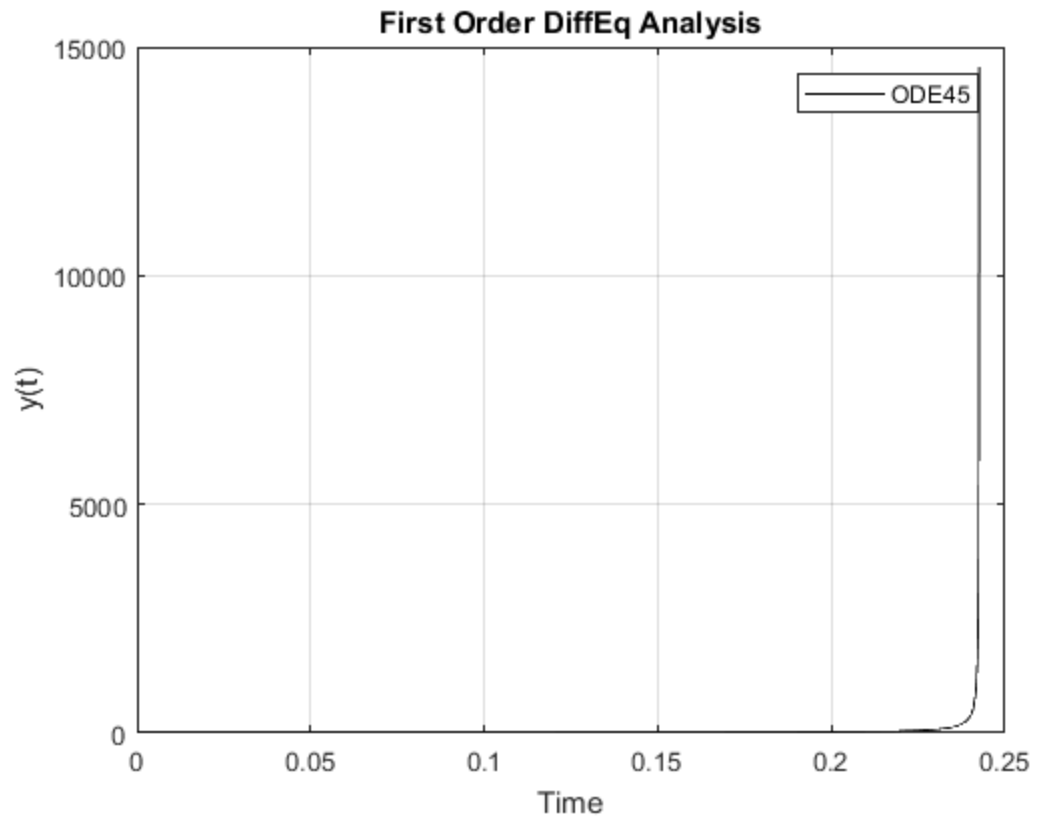
part a

```
type hw_ode.m

% part b
dt = 0.0001;
yI = 4;
tI = 0;
tEnd = 0.25;

[tode, yode] = ode45(@hw_ode,[tI:dt:tEnd],yI);
plot(tode,yode,'k')
grid on
hold on
legend show
legend('ODE45')
xlabel('Time')
ylabel('y(t)')
title('First Order DiffEq Analysis')


function [ dydt ] = hw_ode( t, y )
dydt = y^2 - 3*sin(y) + t;
end

Warning: Failure at t=2.426685e-01.  Unable to meet integration
 tolerances
without reducing the step size below the smallest value allowed
 (4.440892e-16)
at time t.
```

First Order DiffEq Analysis

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