Matlab

The initial conditions are y(t = 0) = 2 and dy(t = 0)/dt = 0. The file VdP with the resulting right hand side has been coded up for the given equation. Solve the equation for t = [0 : 0.01 : 32] using ode45. Is this the right code to solve for y(t)?

y0 = [2; 0];

[t,y1]=ode45(@VdP,[0:0.01:32],y0);

A4 = y1(:,1);

Yes, this code is right if code in the VdP-file is correct.

Here is an example of these two files for solving simple equation (with 0 initial cond.):

$$\frac{d^2u}{dt^2} = 1$$

VdP:

```
function du=VdP(t,u)
du=zeros(2,1);
du(1)=u(2);
du(2)=1;
```

Solution:

```
[t,h]=ode45(@VdP,[0 300],[0,0]);
Solution = h(:,1)
```