MATHEMATICAL MODELLING AND SIMULATION

PRACTICAL TEST – 2

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AIM: Plot direction field for first order ODE y'=f(x,y) where f(x,y)= -2y^2+ 2x

CODE:

[x, y] = meshgrid(-**2**:**0.2**:**5**, -**1**:**0.2**:**3**);

f = -**2.**\*y.^**2** + **2.**\*x

scale = sqrt(**1**+f.^**2**) #rescaling the arrows

quiver(x,y,**1.**/scale,f./scale,**0.5**)

axis tight

xlabel('X value')

ylabel('Y value')

title('Direction Field for f(x,y) = -2y^2+2x')

OUTPUT:

