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:

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