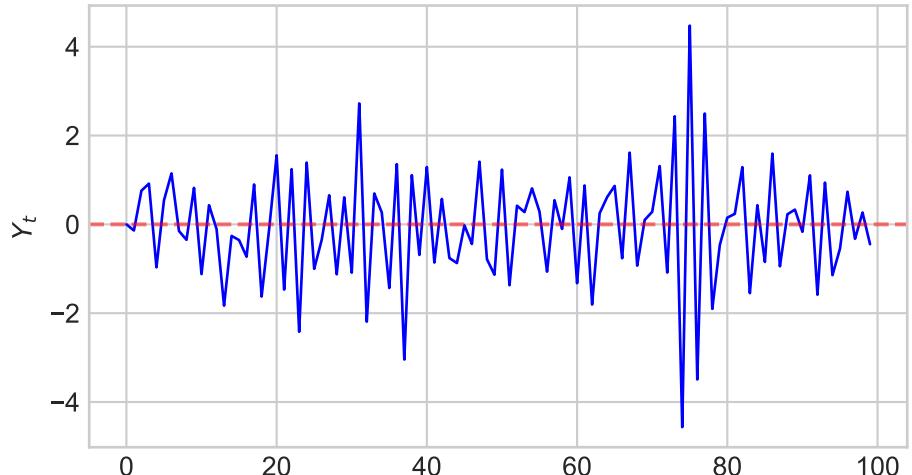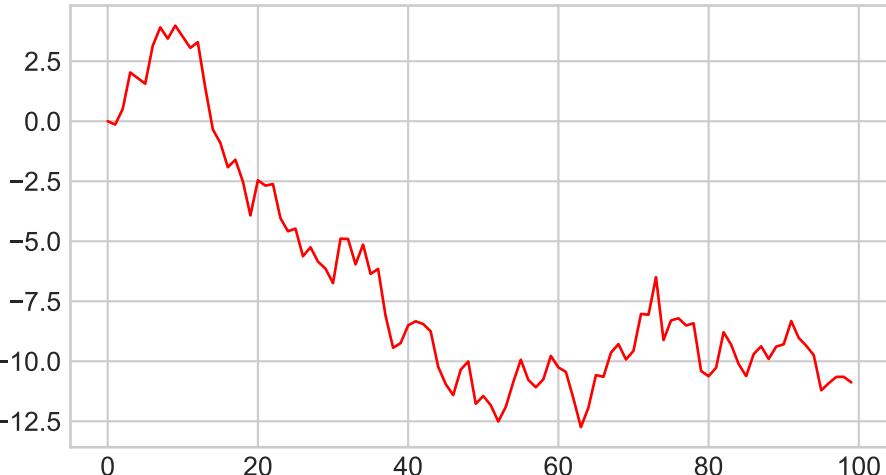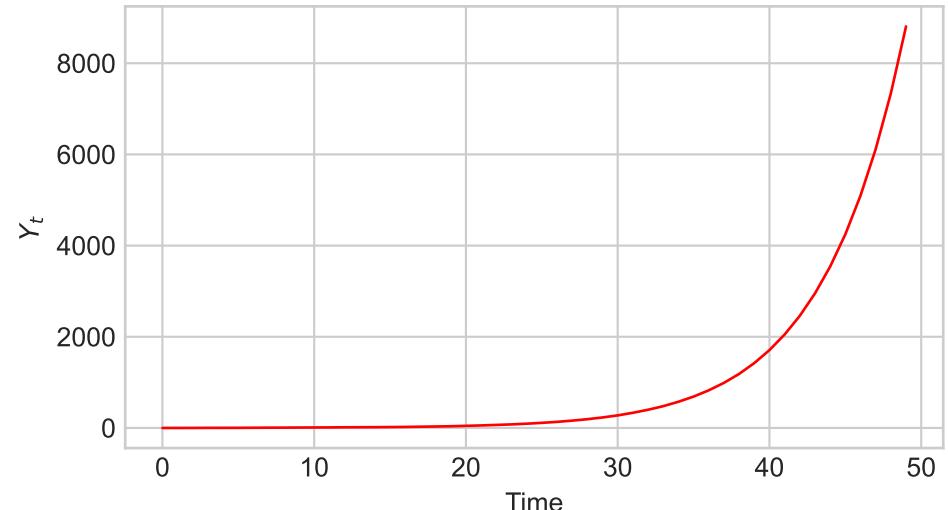$\phi = -0.8$ (Stationary, $|\phi| < 1$)

$\phi = 1.0$ (Unit Root, Non-stationary)

$\phi = 1.2$ (Explosive, $|\phi| > 1$)

$\phi = -1.5$ (Explosive Oscillation)