```m
clear;
clc;
close all;

%% Model
dxdt = @(t, x) x * (x^2 - 1);
tspan = [0 6];
initial_conditions_group1 = [-1.00001, -1, -0.99999, 1.00001, 1, 0.99999];
initial_conditions_group2 = [-0.9, -0.8, -0.5, -0.1, 0, 0.1, 0.5, 0.8, 0.9];

%% around -1 & 1
figure;
for i = 1:length(initial_conditions_group1)
    x0 = initial_conditions_group1(i);

    [t, x] = ode45(dxdt, tspan, x0);

    subplot(2, 3, i);
    plot(t, x, 'DisplayName', 'Nonlinear System');
    hold on;

    x_linear_minus_1 = -1 + (x0 + 1) * exp(2 * t);
    plot(t, x_linear_minus_1, '--', 'DisplayName', 'Linearized around x=-1');

    x_linear_0 = x0 * exp(-t);
    plot(t, x_linear_0, '-.', 'DisplayName', 'Linearized around x=0');

    x_linear_1 = 1 + (x0 - 1) * exp(2 * t);
    plot(t, x_linear_1, ':', 'DisplayName', 'Linearized around x=1');

    title(['x(0) = ', num2str(x0)]);
    xlabel('Time');
    ylabel('x(t)');
    ylim([-2, 2]);
    legend;
    grid on;
    hold off;
end

%% around 0
figure;
for i = 1:length(initial_conditions_group2)
    x0 = initial_conditions_group2(i);

    [t, x] = ode45(dxdt, tspan, x0);

    subplot(3, 3, i);
    plot(t, x, 'DisplayName', 'Nonlinear System');
    hold on;

    x_linear_minus_1 = -1 + (x0 + 1) * exp(2 * t);
    plot(t, x_linear_minus_1, '--', 'DisplayName', 'Linearized around x=-1');

    x_linear_0 = x0 * exp(-t);
    plot(t, x_linear_0, '-.', 'DisplayName', 'Linearized around x=0');

    x_linear_1 = 1 + (x0 - 1) * exp(2 * t);
    plot(t, x_linear_1, ':', 'DisplayName', 'Linearized around x=1');

    title(['x(0) = ', num2str(x0)]);
    xlabel('Time');
    ylabel('x(t)');
    ylim([-1.1, 1.1]);
    legend;
    grid on;
    hold off;
end

```