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Let us revisit our friend:

$$\mathcal{L} = \frac{1}{2} (\partial_\mu \phi)^2 - \frac{1}{2} m_\phi^2 \phi^2 + \bar{\Psi} (i \not{\partial} - m_e) \Psi - i g \bar{\Psi} \gamma^5 \Psi \phi +$$
$$+ \frac{1}{2} \delta_3 (\partial_\mu \phi)^2 - \frac{1}{2} \delta m_\phi^2 \phi^2 + \bar{\Psi} (i \delta_2 \not{\partial} - \delta m_e) \Psi - i g \delta_1 \bar{\Psi} \gamma^5 \Psi \phi$$

Do the power counting for the theory and decide if the counterterms above are sufficient to deal with all the divergences in this theory. If not, try to understand why (is the theory non-renormalizable?)