

1. For this problem use the β functions for the Yukawa theory given in Srednicki eqs. 52.15, 52.16. Plot a diagram in the g, λ plane showing how couplings flow in the infrared with $\ln \mu$ (Consider using the Mathematica function StreamPlot); plot over the region $-2 < g < 2$, $-2 < \lambda < 2$. Comment on or explain as many features of the plot as you can.
2. Srednicki Problem 52.3
3. Repeat the calculation I did in eqs. (10)-(13) in my note on the NJL model to determine the critical coupling g_c , only using dimensional regularization instead of a momentum cutoff.