QFT Homework 3 Due 29 Sept 2022

This homework is due to `https://uwcloud.uwinnipeg.ca/s/Xks9XWXz9yo5CpG` by 10:59PM on the due date. Your file(s) must be in PDF format; they may be black-and-white scans or photographs of hardcopies (all converted to PDF), PDF prepared by LaTeX, or PDF prepared with a word processor *using an equation editor*.

I have listed your name with the problem you will present on 21 Sept. Note that you only need to hand in the first section of problems for a grade.

Reading Assignment: Srednicki chapter 9

Not to be marked Do not submit your answers for the following questions

1. **Amplitudes from Diagrams** Presentation: Phil

   Give the mathematical expression (in terms of integration over propagators and vertex factors) for each diagram in figures 9.1, 9.3, 9.5, 9.8, and 9.10, plus the first (left-most) diagram in figure 9.12.

2. ϕ^4 **Theory** *Srednicki 9.2* Presentation: Bardh

   Do this question before the question below

For a grade Submit your answers for the following questions

3. **Complex Scalars** *Srednicki 9.3* Presentation for part (a) and 0-, 1-vertex diagrams: Zunaira; Presentation for 2-vertex diagrams: Naman