EXERCISE II
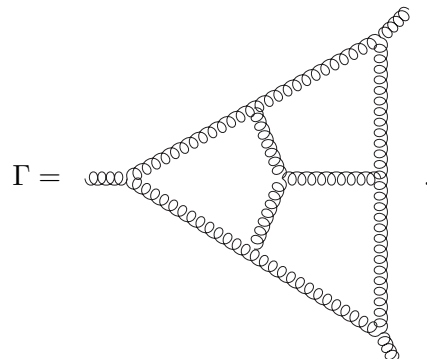## (MAY 06 2013, TO BE HANDED IN MAY 22 2013)

DYSON SCHWINGER EQUATIONS (KREIMER, SUMMER '13)

Consider the graph

$$\Gamma = \quad$$

- 1.
  What is the Hochschild 1-cocycle B_+^x which generates it? What is/are the graph(s) x? Symmetry-factor of x?
- 2.
  How many maximal forests? How many insertion places does the above x allow? What is Γ/x? How many non-trivial ways to permute its external edges?