LaTeX assignment on Homology and Cohomology

Spring term 2018, Second assignment

Hand in before 10 o'clock on 21st May 2018
by e-mailing your .tex and .pdf file to sven.raum@epfl.ch

Sven Raum

The aim of this assignment is to give a presentation on **1-2 pages** of **group homology** (without coefficients) **by means of the bar resolution**, including a discussion of **the co-invariant functor** and the calculation of $\mathrm{H}_1(G)$. Further, you are expected to provide **concise peer-feedback** to a randomly selected and anonymous fellow student, **after the 21st of May**. I will send you an email with instructions after that date. This assignment includes several challenges:

(i) Consulting resources independently.

(ii) In view of the page limitation, you will be forced to make a choice on which parts are worth more detailed explanation and which others can be simply stated.

(iii) Writing structured feedback, following for example the scheme

  (a) "What was good",

  (b) "What could be improved", and

  (c) "How can it be improved".

Evaluation:

- This assignment accounts for 10% of the final grade.
- The grading scheme for the assignment takes into account the following aspects:
  - 60% of the points for a mathematically correct account on homotopy invariance of relative singular homology.
  - 20% for a clear presentation and appropriate selection of the content.
  - 20% for an adequate and balanced peer-feedback.

Suggested resources:

- Chapter II.2 - II.3 on pages 34ff of Brown's "Cohomology of groups"
- The LaTeX symbol list from `tug.ctan.org/info/symbols/comprehensive/symbols-a4.pdf`.
- My feedback on your first assignment.