

COMPUTING METHODS IN HEP Exercise 1 Spring 2023

(To be returned by 10:15 on Friday 27.1.)

1. **Create a git repository** for this course by forking the repo

https://www.mv.helsinki.fi/home/slehti/CompInHEP_k2023.git

Commit all your answers in your git repo. Never commit data in your repo, or it will get too big. Please make sure that I have permission to access your repo. One possible place for your repository is [markka.it.helsinki.fi](https://www.mv.helsinki.fi/home/ad/web1/<username>), where directory `/home/ad/web1/<username>/` is visible as [https://www.mv.helsinki.fi/home/<username>/](https://www.mv.helsinki.fi/home/<username>)

2. **Create a LaTeX document** which contains Feynman graphs for the lowest order contributions to electron-positron annihilation (Fig.1.8 in Ref [1]). Place the two figures in parallel, and use a joint caption below the figures. Add reference using BibTeX.

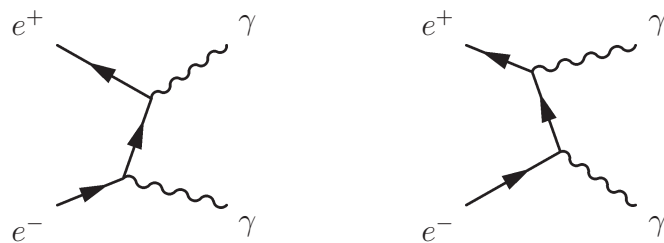


Figure 1: Feynman graphs for the lowest order contributions to electron-positron annihilation [1].

3. **Write a Makefile** which produces a pdf file from the source files used in 2.

Please give me instructions by email to [sami.lehti\(at\)cern.ch](mailto:sami.lehti@cern.ch) how to access your git repository.

References

- [1] B. Martin and G. Shaw, *John Wiley & Sons, 1992.*