Reversible Computing ⓢ

Reading on the Lecture

- Krakovsky M., Taking the heat. In: Communications of the ACM, 64(6): 18-20, 2021. **https://doi.org/10.1145/3460214** ⤷ **(https://doi.org/10.1145/3460214)**

- Glück R., Yokoyama T., Reversible computing from a programming language perspective. In: Theoretical Computer Science, 953: Article 113429, 2023. **https://doi.org/10.1016/j.tcs.2022.06.010** ⤷ **(https://doi.org/10.1016/j.tcs.2022.06.010)**

- Yokoyama T., Glück R., A reversible programming language and its invertible self-interpreter. In: Partial Evaluation and Program Manipulation. Proceedings. 144-153, ACM Press 2007. **https://doi.org/10.1145/1244381.1244404** ⤷ **(https://doi.org/10.1145/1244381.1244404)**

Additional Reading

- Sections 2 and 3 of Glück R., Yokoyama T., A linear-time self-interpreter of a reversible imperative language. In: Computer Software, 33(3): 108-128, 2016. **https://www.jstage.jst.go.jp/article/jssst/33/3/33_3_108/_article** ⤷ **(https://www.jstage.jst.go.jp/article/jssst/33/3/33_3_108/_article)**

- Sections 2 and 4 of Yokoyama T., Axelsen H.B., Glück R., Fundamentals of reversible flowchart languages. In: Theoretical Computer Science, 611: 87-115, 2016. **https://doi.org/10.1016/j.tcs.2015.07.046** ⤷ **(https://doi.org/10.1016/j.tcs.2015.07.046)**

Janus Interpreter

- **https://topps.di.ku.dk/pirc/?id=janusB** **(https://topps.di.ku.dk/pirc/?id=janusB)**
- **https://topps.di.ku.dk/pirc/janus-playground** **(https://topps.di.ku.dk/pirc/janus-playground)** (with extensions)

Slides

- **00RC.pdf (https://absalon.ku.dk/courses/80613/files/9459960/download?wrap=1)** ↓ **(https://absalon.ku.dk/courses/80613/files/9459960/download?download_frd=1)**
- **01RC.pdf (https://absalon.ku.dk/courses/80613/files/9459990/download?wrap=1)** ↓ **(https://absalon.ku.dk/courses/80613/files/9459990/download?download_frd=1)**
- **04RC.pdf (https://absalon.ku.dk/courses/80613/files/9523234/download?wrap=1)** ↓ **(https://absalon.ku.dk/courses/80613/files/9523234/download?download_frd=1)**
- **05RC.pdf (https://absalon.ku.dk/courses/80613/files/9523233/download?wrap=1)** ↓ **(https://absalon.ku.dk/courses/80613/files/9523233/download?download_frd=1)**

Handouts (for your information)

- **Operational semantics - cheat sheet (https://absalon.ku.dk/courses/80613/files/9459992/download?wrap=1)** ↓

(https://absalon.ku.dk/courses/80613/files/9459992/download?download_frd=1)

- **(https://absalon.ku.dk/courses/80613/files/9459992/download?wrap=1) (https://absalon.ku.dk/courses/80613/files/9459991/download?wrap=1) Two MSc theses by former PAT students (https://absalon.ku.dk/courses/80613/files/9459991/download? wrap=1)** ⤓ **(https://absalon.ku.dk/courses/80613/files/9459991/download?download_frd=1) (https://absalon.ku.dk/courses/80613/files/9459992/download?wrap=1)**

Suggested Topics for Final Assignment

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You are welcome to modify the above topic or suggest new ones in consultation with the teacher for this module.