Exercise 10.1. Read the introductions of the following papers and identify princess, dragon, and magic sword:


Exercise 10.2. Typeset the following set of equations, matching alignment and positioning as close as possible:

\[
H_n := \begin{pmatrix}
\frac{1}{1} & \frac{1}{2} & \frac{1}{3} & \cdots & \frac{1}{n} \\
\frac{1}{2} & \frac{1}{3} & \frac{1}{4} & \cdots & \frac{1}{n+1} \\
\vdots & \vdots & \vdots & \ddots & \vdots \\
\frac{1}{n} & \frac{1}{n+1} & \frac{1}{n+2} & \cdots & \frac{1}{2n-1}
\end{pmatrix} \quad (2.1)
\]

\[
(H_n^{-1})_{i,j} = \frac{(-1)^{i+j} (n+i-1)(n+j-1)!}{(i+j-1)!((i-1)!(j-1)!)^2} = (-1)^{i+j}(i+j-1) \binom{n+i-1}{n-j} \binom{n+j-1}{n-i} \binom{i+j-2}{i-1} \quad (2.2)
\]

\[
\det H_n^{-1} = \prod_{k=1}^{n-1} (2k+1) \binom{2k}{k}^2 \quad (2.3)
\]

Exercise 10.3. Submit a paper to the Second Dresden Mock Conference on Academic Skills in Computer Science (DD-ASiCS’20). The deadline for submissions is 2020-07-06T23:59:59+2. Your paper should be two pages (excluding references) in LNCS format and be anonymised for double-blind review (we expect every author to participate in the reviewing process).

Pick a foundational concept of computer science and imagine that you just invented this concept. Then write an abstract and an introduction for a paper introducing this concept (see below for a list of possible topics). You may also choose to submit a placeholder abstract; in this case a topic will be assigned to you.

Papers should consist of an abstract, an introduction, and references; no content or conclusions are required. While cited claims need not be substantiated by the sources, it should be plausible for the claim to appear therein.

Possible topics include:

- linked lists,
- hash maps,
- static typing,
• dynamic typing,
• structured programming,
• object-oriented programming,
• functional programming,
• finite automata,
• push-down automata,
• turing machines,
• logic programming,
• …