Lab 6

CSC 225 Summer 2023

June 13, 2023

Problem 1: Hasse Diagram. A set of frog ponds F can be ordered by latitude (see `https://journeynorth.org/tm/LongitudeIntro.html` for more info). Let's call this relation L.

Consider frog ponds $p_1, p_2 \in F$. We can say $p_1 L p_2$ if $p_1 = p_2$ or if p_1 is to the north of p_2.

Let $F = \{$Panema Flats, Kreutzteich, Sabine National Forest, Parque Nacional do Jaú, Rithet's Bog, Haweqwa Nature Reserve, Prospect Lake, Nakasenuma Ponds$\}$, where each pond's latitude and longitude has been listed below.

- Panema Flats: 48, -123
- Kreutzteich: 52, 10
- Sabine National Forest: 31, -93
- Parque Nacional do Jaú: -1, -62
- Rithet's Bog: 48, -123
- Haweqwa Nature Reserve: -33, 19
- Prospect Lake: 48, -123
- Nakasenuma Ponds: 37, 140

Draw the Hasse Diagram of L on F.

Problem 2: Sorting. Draw the list A on each pass during Bubble Sort, Selection Sort, Insertion Sort, and Merge Sort to sort it according to lexicographical order.

$$A = [haben, sie, einen, deutschen, pass, kleiner, frosch]$$