An interesting topic we covered in module 7 was the Binary Heap, the heap is a complete binary tree which is perfect to manage priority queues. It comes in two types: a min heap, where the smallest element is the root element, or a max heap where the largest is the root element. This makes sure that every layer of the tree is filled except maybe the last one, and each layer of the tree is filled from left to right. The key property I found of the min heap is that its parent node is smaller or equal to its children, allowing for fast access in finding the minimum value. Whereas max heap is the opposite.

This allows things like games to process the highest priority task first and run smoothly in priority lists, such as pathfinding in something like in Runescape or event scheduling. Or comparatively, as a father myself, juggling a busy schedule I relate to the thought process of a binary heap because I sort my day-to-day tasks by priority so that I complete the most important ones first. These are the most practical thought applications I can imagine that these covers.