1. **Explain why it is advantageous to use priority heaps in hospital management systems.**

The priority heaps help hospital management their resources more efficiently. From the doctor perspective, the min heap keeps their workload more even, so no one in the min heap management structure will experience over and high intense of workload. From the patient perspective, max heap management structure can help hospital react faster on some critical crisis and to treat the people on time. Both of data structure will also seem to be beneficial not only treat patients or even the workload but also allocating hospital resources.

1. **Explain a few features which should be incorporated into the hospital patient and doctor management system for the system to be useful in an actual (i.e., real-world hospital) for managing emergency room patient cases.**

For the hospital patient management system, add a one more priority heap like max heap for patient who showing the same symptoms. Based on how long the patient have suffer or age of this patient, can decide who can be treat and send to emergency room. And for each ER, a min heap can help to maximum the usage as the lowest usage will be the first one to be choose.

1. **If we need to apply priority heaps in product recommendations (based on features or product ratings), how can we apply them?**

Apply min heap, product rating of 1 is the highest priority or if based on the feature apply a max heap, the more feature it has the higher priority they are. The result of applying the priority heaps, the product that mostly recommended will always be the first or the top of priority.