UCS 1312 Data Structures Lab
A7: Priority Queue - Application of Binary Heap

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Best Practices to be adapted

- Modular design and coding using versions
- Improve readability of code by making the program self-explanatory, giving meaningful names to your variables and functions
- Avoiding global variables

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Write algorithms for applications and trace them with an example. Inspect the steps using the diagrammatic representation of the tree.

1. Create an ADT for a binary heap (heap.h). (CO2, K3)

   a) Add the following operations:

      buildHeap, Insert, deleteMin

   b) Implement a priority Queue of beneficiaries of below poverty line families based on their income. (a8PQ.c). It is required to find beneficiaries below the specified limit of the salary. Write an appropriate function.

Sample Input:

Number of families: 10
Incomes in K: 1.7, 4.3, 7.8, 1.5, 5.6, 2.5, 8, 1, 0.7, 1.5 (For simplicity, the name of the head of the family is ignored))
BPLLimit: 4

Output:
Removed Incomes: 0.7, 1, 1.5, 1.5, 1.7, 2.5

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