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Amrita School of Computing, Amritapuri
B.Tech. Computer Science and Engineering (AI)
Fourth Semester
22AIE212 Design and Analysis of Algorithms
Assignment 1
(Submission Date: 22/06/2024)

1. Solve the recurrence relation
   a. $T(n) = 2T(\sqrt{n}) + \log n$
   b. $T(n) = T(n/5) + T(4n/5) + n$
2. Sort the array A= {5,2,13,25,7,17,25,8,3} using Heap sort. Illustrate each stage with figure.
3. Illustrate the operation of MAX-HEAPIFY(A,3) on the array A ={27,17,3,16,13,10,1,5,7,12,4,8,9} using figure
4. Write the pseudo code for heap sort and analyse the best case, worst case, and average case