PUNE INSTITUTE OF COMPUTER TECHNOLOGY

INFORMATION TECHNOLOGY

ACADEMIC YEAR -2020_21

SUB: DSA 2019 course Semester – I

DSFL ASSIGMENT NO 6 WRITUP OUTLINE

1	**Title**	Assignment 7: Heap Sort
2.	**Aim**	To implement a heap sort
3.	**Problem statement**	Implement Heap sort to sort given set of values using max or min heap.
4.	**Objective**	
5.	**Outcome**	
6.	**Theory**	C. Theory :: 1. Heap data structure concept, definition 2. Properties of binary heap data structure 3. Types of heap max,min heap representation with example 4. How to construct a heap from scratch explain with diagram 5. Application of heap data structure .
7.	**Algorithms /Pseudocode:**	Write down the pseudocode for for heap sort and explain complete algorithm with example and diagram
8.	**Test cases/validation**	➔ **Validations and data set** 1. **limit validations** 2. take valid data set for sorting 3. Data set can be integer, character, string , or record → Test case : All four cases already discussed in the assignment no Show pass wise output and comparison count of each pass
09	**Program**	Printout /Softcopy
10.	**Results /output**	Including test cases , validations and valid inputs based results .
11.	**Conclusion**	Analysis with respect to time and space complexity , comparison with quick and merge sort

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