

**SSN College of Engineering, Kalavakkam**  
**Department of Computer Science and Engineering**  
**III Semester - CSE**  
**UCS 1312 Data Structures Lab Laboratory**

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**Exercise 9: Binary Heap and Application**

priorityQueueADT consists of integer element. Implement the following methods.

- void insert(struct priorityQueueADT \*P, int x) – Insertion of the details of a new item into priority queue
- int delete(struct priorityQueueADT \*P) – Will remove the root of min binary heap

1. Demonstrate ADT with the following testcase

```
insert(p,14);
insert(p,16);
insert(p,22);
insert(p,11);
insert(p,9);
insert(p,18);
insert(p,10);
insert(p,7);
insert(p,4);
insert(p,1);
```

2. Write an application to design a priority queue using min binary heap. An item in the priority queue consists of employee id and salary amount. The queue supports two operations, namely, insertion and deletion.

Test the application with the following

```
insert(p,('A',15000));
insert(p,('K',12000));
insert(p,('R',4000));
insert(p,('T',3500));
insert(p,('L',4600));
insert(p,('P',6000));
insert(p,('Y',8600));
```

Output:

Employees are removed in the following order

('T',3500), ('R',4000), ('L',4600), ('P',6000), ('Y',8600), ('K',12000), ('A',15000)