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**Sessional II - Examination**

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| Course Title: | Data Structure and Algorithm | | Course Code: | CSC211 | | Credit Hours: | 4(3,1) |
| Course Instructor/s: | Dr. Farrukh Zeshan | | Programme Name: | BS Software Engineering | | | |
| Semester: | 3rd | Section: | B | Date: | | Dec. 7 , 2020 | |
| **Time Allowed:** | **75 Mins** | | **Maximum Marks:** | | | **20** | |
| Student’s Name: | **Areeb Ahmed** | | Reg. No. | | FA19-BSE-022 /LHR | | |
| **Important Instructions / Guidelines:**   * Attempt all questions. | | | | | | | |

### Question-1: Implement the following class (10)

### struct node

### {

### int num;

### node \* next;

### };

### class LinkList

### {

### private:

### node \* start;

### node \*head;

### public:

### countNonRepeatingElementsInList(node \*list);

### };

### int countNonRepeatingElementsInList(node\* list)

### {

### while (start != NULL)

### {

### start = head;

### cout << start->num;

### start = start->next;

### if (start->num ==1)

### {

### return start->num;

### }

### else

### {

### return -1;

### }

### }

### }

### 

### Question-2: Implement the following class (10)

### struct flightInfo

### {

### int flightId;

### int fuel;

### };

### const int size = 100;

### class PriorityQueue

### {

### private:

### flightInfo FlightQueue[size];

### int tail;

### int front;

### public:

### FindAndDeQueueFlightFacingFuelProblem(); //having less than 100 gallon fuel.

### };

### {

### int Id =0 , var =0 , flightInfo Stack[Size];

### for(int i = front ; i< tail ;i++)

### {

### if(FlightQueue.fuel[i]<100)

### {

### Id=FlightQueue.flightId[i];

### break;

### }

### }

### tail--;

### while(FlightQueue.flightId[tail]!=Id)

### {

### Stack[var++]=FlightQueue[tail--];

### }

### while(var>=0)

### {

### FlightQueue[tail++]=Stack[--var];

### }

### }