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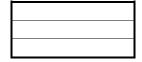
COM 205 Data Structures
Condition Exam, 31.01.2013, 13:00, D1
Time: 75 Minutes

NUMBER :	NAME :	EX	AM GRADE		
	SIGNATURE:	[]	[]		
1. Cell phones are not allowed to be used as a calculator or a watch. They must be switched off and placed in the pocket.					

- 2. Brief information about the exam will be given at the begining, then no one is not allowed to ask a question during the exam.
- 3. Do not to forget to sign this paper after writing your number and name.

<pre>void print(DoublyNode* node) { if (node == trailer) return; else print(node->next); cout << node->elem << endl; }</pre>
<pre>void main() { DoublyLinkedList list;</pre>
<pre>list.insertOrdered("Paul", 720); list.insertOrdered("Rose", 590); list.insertOrdered("Anna", 660);</pre>
<pre>list.print(list.header->next); }</pre>

1. a) Write down the output of the program above? (10P)



b) How the output of the program would be if like if(node==trailer) changed part was if(node->next==trailer). Explain the reason. (30P) **OUTPUT**

7 5 4 3 2 1 6

2. Insert the numbers above into a splay tree? (25P)

 \leftarrow Solve this question on the back side of the paper

<pre>void removeOrdered(const string& e, const {</pre>	int& i)
SinglyNode* current = head; SinglyNode* previous = head;	
<pre>if((current->elem == e) && (current->sco {</pre>	re == i))
<pre>head = current->next; delete current; return;</pre>	
}	
<pre>current = current->next; while (current != NULL) {</pre>	
<pre>if((current->elem == e)&&(current->sco {</pre>	ore == i))
<pre>delete current; return;</pre>	;
}	
	· · · · · · · · ;
}	
<pre>if(current==NULL) cout<<e<" foun="" is="" not="" pre="" }<=""></e<"></pre>	d"< <endl;< td=""></endl;<>

- **3.** Complete **removeOrdered()** function above that removes an element from a singly linked list. (15P)
- **4.** dequeue() function of a queue is implemented with circularly linked list function remove() whereas enqueue() requires advance() in addition to add(). Explain the reason. (20P)