### Rules to Be Obeyed During The Exam
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 beginning, 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.

### CODE
```cpp
void print1(DoublyNode* node) {
    cout << node->elem << endl;
    if (node->next == trailer) return;
    else print1(node->next);
}

void print2(DoublyNode* node) {
    if (node == trailer) return;
    else print2(node->next);
    cout << node->elem << endl;
}

void main() {
    DoublyLinkedList list;
    list.insertOrdered("Paul", 720); // küçükten
    list.insertOrdered("Rose", 590); // büyüğe
    list.insertOrdered("Anna", 660); // sıralı ekle

    list.print1(list.header->next); // (1)
    list.print2(list.header->next); // (2)
    list.print3(list.trailer->prev); // (3)
    list.print4(list.trailer->prev); // (4)
}
```

### QUESTIONS
1. **a)** Write down the outputs of the functions `print1()` and `print2()` when called with `header->next` parameter in the `main()` function. (10P)

<table>
<thead>
<tr>
<th>Print1()</th>
<th>Print2()</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**b)** Write down `print3()` that is equivalent to `print1()` and `print4()` that is equivalent to `print2()` when called both with `trailer->prev` parameter in the `main()` function.

*Hint* ➔ Answers take 3 lines.

```cpp
void removeOrdered(const string& e, const int& i) {
    DoublyNode* current = header->next;

    while (current != trailer) {
        if ((current->elem == e) && (current->score == i)) {
            ..............................................;
            ..............................................;
            delete current;
            return;
        }
        current = current->next;
    }
    cout << e << " is not found" << endl;
}
```

2. **Complete `removeOrdered()` function above that removes an element from a doubly linked list. (10P)**
3. Insert the elements above into a splay tree. (20P)

4. Complete codes below that deletes 8 and 24 from binary tree like above. (30P)

```c
if( p->left != NULL & p->right != NULL)
{
    if(parent->left == p)
    {
        parent->........ = p->........;
        p->.............. = parent;
        temp = p->........;
        while(temp->........ != NULL) temp = temp->........;
        temp->............ = p->........;
        temp->............ = temp;
    }
    else
    {
        parent->........ = p->........;
        p->.............. = parent;
        temp = p->........;
        while(temp->........ != NULL) temp = temp->........;
        temp->............ = p->........;
        temp->............ = temp;
    }
    delete p;
}
```