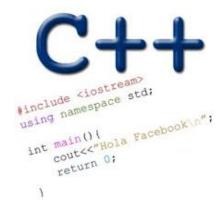
RULE OF THREE LINKED LISTS CONTD

Problem Solving with Computers-II



Read the syllabus. Know what's required. Know how to get help.

CLICKERS OUT – FREQUENCY AC

Destructor

```
The destructor is invoked when the object is removed
from memory
void foo(){
    IntList list1;
    IntList *p = new IntList;
}
```

How many times is the destructor invoked for the above code?

- A. Never
- B. Once
- C. Twice

Copy constructor

- The copy constructor creates and initializes a new instance to be the copy of another instance of the class
- A class always has a default copy constructor which may be overloaded
- Why overload the copy constructor

Overloading the copy constructor

- Which of the following classes that you have implemented is a good candidate to overload the copy constructor
- A. Statistician class from PA1
- B. IntList (implemented in class)

Copy assignment

```
IntList list1, list2; //default constructor is invoked
//Copy assignment is invoked in all cases below:
```

```
list1 = list2;
```

- The copy assignment should result in list1 having a copy of the data of list2
- A class always has a default copy assignment which may be overloaded
- Why overload the copy assignment

RULE OF THREE

If a class defines one (or more) of the following it should probably explicitly define all three:

- 1. Copy constructor
- 2. Copy assignment
- 3. Destructor

Value semantics: Copy assignment and copy constructor

Value semantics means treated objects as values and creating copies on

- Copy assignment
- Copy constructor

What is the output of this code?

Next time

Run time analysis