

CSE 101-02 5-3-22

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pas: ext. 1 day (Saturday)

Handout: ADTs in C++

split defn of class into two files.

EX

class: Blah

in Blah.h file

class Blahf

Private:

// inner struct

// member-variables

// private helper funcs.

Public:

// constructor(s) (Prototypes)

// destructor (Prototype)

// member methods (")

// overloaded ops. (")

};

Scope resolution operator

::

in file Blah.cpp

// defn of methods declared in
// Blah.h

type Blah::fcn1(--Parameter-list...) {

}

type Blah::fcn2(--Param. list...) {

}

```
type Blah::helperfcn (...) {
```

```
}
```

// another way to implement
 // helper-funcs: not a member
 // of class.

```
type other-helper-fcn (...) {
```

```
}
```

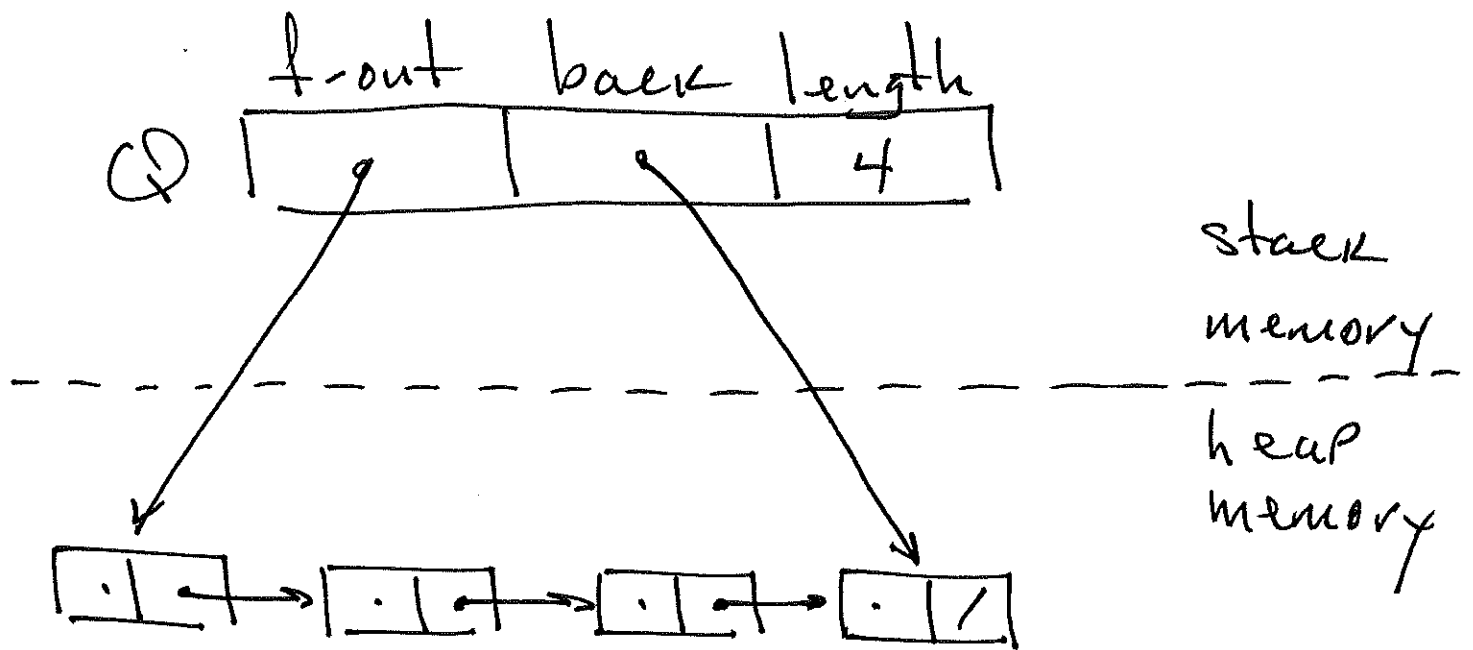
The "this" pointer:

inside an instance method,
this is a pointer pointing to
 the instance on the LHS of
 the dot

$$\begin{array}{c} A.\text{method}(B) \\ \uparrow \\ \text{this} \end{array} \quad \left\{ \begin{array}{l} \text{usually} \\ \text{implicit} \end{array} \right.$$

In a constructor this points
 to the object under construction.
 (implicit in most cases.)

Ex. Queue (Linked list)



• In C++, never use C memory

funcs (malloc, calloc, realloc, free)

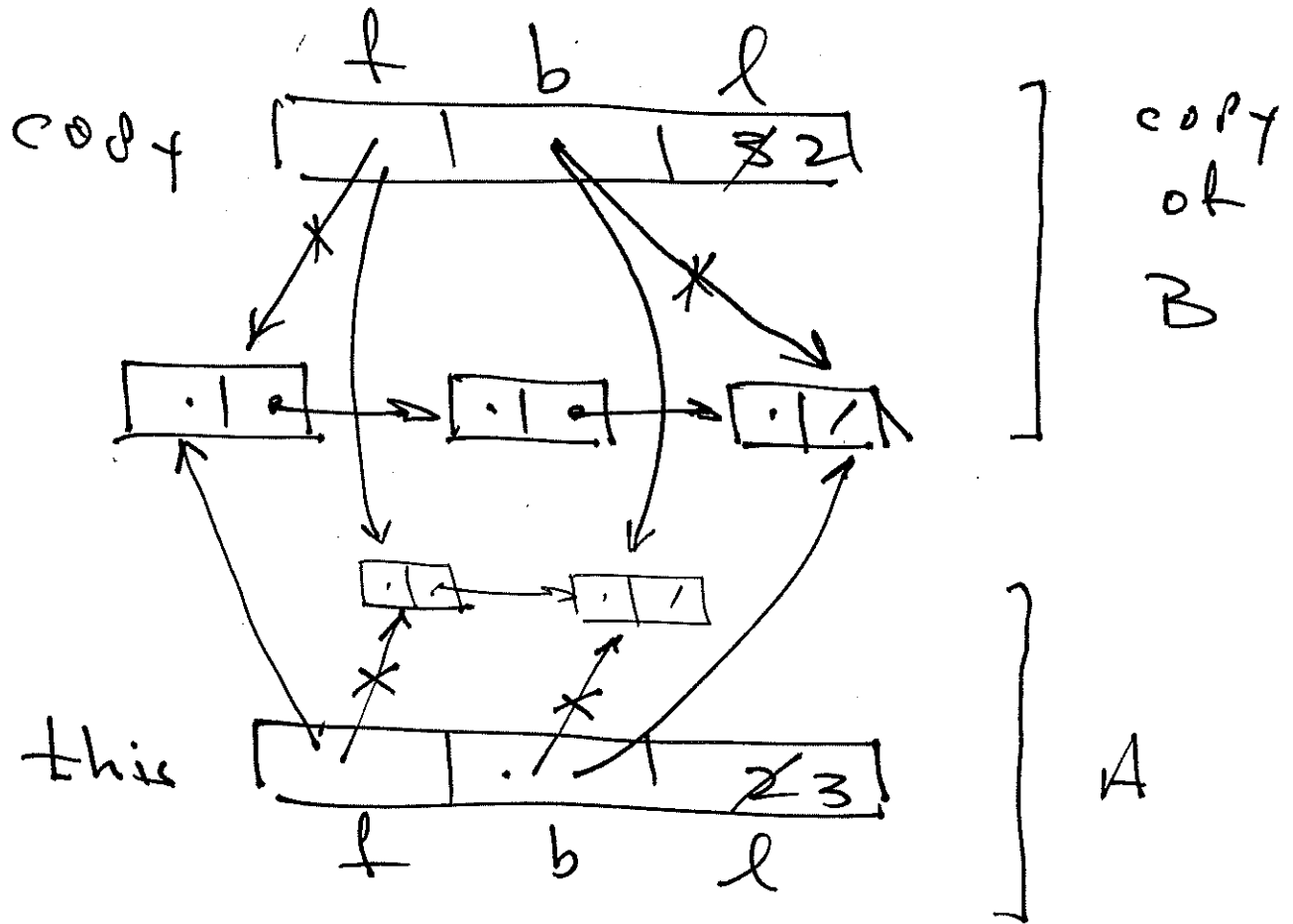
instead use

new (allocates heap memory)

delete (frees " ")

assignment operator:

operator = ()



call : $A = B$
 ↑ ↑
 this copy