CS180 - Vectors

Announcements

- Checkpoint today

- Midterms back on Wed.

Today:

- Extend program due date by 24 hours - due tomorrow by midnight
- Handed back midterms
- No lab tomorrow
Bugs (from previous code)

Templating and .h/.cpp files

Errors: With templating, easier to have only 1 file (.h)

If want 2 files
in .h, include / import the functions at the end.

-SNode was an internal class
variables _elem, _next were private
**Smart Stack**

Segment fault - find which line
```
    cout << " here1" << endl;
```

Reason: If `refcount` ++ == 0
```
    if (NULL) This is a seg fault
```

Vectors - Ch 6.1

Similar to lists in python

myvector [5] = b;

Extendable: When the vector gets full, double the size

```java
$\text{myvector.add}(11)$ at end
```
Code:

```
private data:
[Object * _data; // pointer to my array
  int _cap;     // max possible size
  int _size;    // current # of objects in array]
```

Functions:
(see STL)

Constructor
Destructor
Insert

myvec. insert (2, 'c');
othervec. insert (11, "new");
anotvec. insert (7, -25);

How to insert?
(What if full?)

myvec: .data - data .size - size .cap - cap

index = 2

\[ \text{for loop } \]
\[ \text{data}[\text{size}] = \text{data}[\text{size}-1] \]
\[ \text{data}[\text{size}-1] = \text{data}[\text{size}-2] \]
Erase

take an index and delete that element

Ex: myVec.erase(3)

data → \[
\begin{array}{cccc}
0 & 1 & 2 & 3 \\
7 & -1 & 3 & 11
\end{array}
\]