CIS 330: Project #4B
Assigned: May 30th, 2018
Due: June 9th, 2018
Note: can be handed in for full credit up through June 13th
Note: no work will be accepted (0% credit) after 7am, June 14th

Worth 4% of your grade

Please read this entire prompt!

Assignment:
Make your 3E project run memory error and leak free

Tasks:
1) start with your 3E source code. (Don't use 3F, since it has exceptions and that makes things hard.)
2) run valgrind on your 3E program (you may need to use ix-dev to do this … esp. since Mac+valgrind doesn't always work well)
3) look at memory errors and memory leaks
4) fix errors and leaks … repeat until valgrind declares your program leak free and memory error free

Submit:
1) a screenshot of the valgrind output (see mine below)
2) your source code

```
hank@ix: ~/3F/3F 65$ valgrind proj3F ~/3A_input.pnm 3F_output.pnm
==16125== Memcheck, a memory error detector
==16125== Copyright (C) 2002-2011, and GNU GPL'd, by Julian Seward et al.
==16125== Using Valgrind-3.7.0 and LibVEX; rerun with -h for copyright info
==16125== Command: proj3F /home/users/hank/3A_input.pnm 3F_output.pnm
==16125==
==16125==
==16125== HEAP SUMMARY:
==16125==     in use at exit: 0 bytes in 0 blocks
==16125==   total heap usage: 33 allocs, 33 frees, 108,022,422 bytes allocated
==16125==
==16125== All heap blocks were freed -- no leaks are possible
==16125==
==16125== For counts of detected and suppressed errors, rerun with: -v
==16125== ERROR SUMMARY: 0 errors from 0 contexts (suppressed: 2 from 2)
```

Notes:
1) if I had memory errors, they would have occurred after "Command: proj3F" and before "HEAP SUMMARY". None there, so I'm OK.
   a. Don't forget to use your 3E code … not 3F code.
2) Re memory leaks: "All heap blocks were freed" is the magic statement … that means no memory leaks.