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← Homework 1

CPSC 131 Homework 1

Deadline: Wednesday, Feb-1 (MoWe sections)
Thursday, Feb-2 (TuTh sections)

Turn in your submission as hard copy in class.

#1 (will be graded for credit)

This question has 4 parts.

a) In general, when is it better to allocate an object statically on the stack (as opposed to dynamically on the heap)? Give an example of a programming scenario where an object should certainly be stack-allocated.

b) Now the opposite question: in general, when is it better to allocate an object dynamically on the heap (as opposed to the statically on the stack)? Give an example of a programming scenario where an object should certainly be heap-allocated.

c) In general, when is it better to use a **reference** over a **pointer**? Give an example of a programming scenario where it is certainly better to use a reference.

d) Now the opposite question: in general, when is it better to use a **pointer** over a **reference**? Give an example of a programming scenario where it is certainly better to use a pointer.

#2 (solutions will be posted)

Write a snippet of C++ code that does the following:

- a) Create an array of 100,000 `float` elements that is allocated on the heap.
- b) Initialize each element to 0.0.
- c) Free the memory associated with the array.



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