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1. If you want to mimic in Java the functionality of C++'s destructor method (i.e., it gets called as soon as you are finished using an object), why is the `finalize` method the wrong way to implement this functionality?

    - Because finalize gets called by the garbage collector. If you call finalize yourself, you will have unpredictable results when the garbage collector tries to call it on unowned resources.

2. What is a virtual machine? Why are programs executed by virtual machines slower than programs executed by the machine itself?

    - It's software that simulates a machine and its instruction set. Programs executed by virtual machines are slower because the VM does run-time checking to make sure the program doesn't breach the security of the platform.

3. Write the Java statement that declares `MARCH` to be an integer constant with a value of 3.

    - final int MARCH = 3;

4. Why is it not possible in Java to write a swap routine that swaps two variables of the same primitive type?

    - Because java uses pass-by-value instead of pass-by-reference.