

You are advised to complete these problems before the midterm exam, although you can turn them in as late as 2002-09-23. A few more simple questions may be added up through 2002-09-15.

1. We had earlier studied inheritance and `virtual` methods in C++ using a sample program. Adapt the program to Java and report how Java deals with inheritance in this regard.
2. Complete the standard semantics for the construct `(new E_v)` in FLK!.
3. Show the “compiled code” that results when you invoke \mathcal{E} with top-level environment, continuation, and store on the expression

```
let a = (new 5)
(begin
  (write a (new 3))
  (read (read a)) )
```

4. Write down standard semantics for the FLK! construct `(exit E)` where E is expected to evaluate to an integer, like in C/C++. Informally, evaluation of an `exit` expression should discard all pending computation and the result of the program should be the integer value of E .
5. Desugar the `exit` construct using `label` and `goto`.