15.1

- A limited instruction set with a fixed format.

- A large number of registers or the use of a compiler that optimizes register usage, and an emphasis on optimizing the instruction pipeline.

15.2

Two basic approaches are possible, one based on software and the other on hardware. The software approach is to rely on the compiler to maximize register usage. The compiler will attempt to allocate registers to those variables that will be used the most in a given time period. This approach requires the use of sophisticated program-analysis algorithms. The hardware approach is simply to use more registers so that more variables can be held in registers for longer periods of time.

15.3

- Variables declared as global in an HLL can be assigned memory locations by the compiler, and all machine instructions that reference these variables will use memory-reference operands.  
- Incorporate a set of global registers in the processor. These registers would be fixed in number and available to all procedures.

15.4

One instruction per cycle. Register-to-register operations. Simple addressing modes. Simple instruction formats

15.5

A way of increasing the efficiency of the pipeline, makes use of a branch that does not take effect until after execution of the following instruction.