

Checks to Do After Hand-Translating TinyJ Source Code

The code generated by the TinyJ compiler when it translates a TinyJ program satisfies the following conditions:

1. The code generated for any assignment statement begins with a PUSHSTATADDR or PUSHLOCADDR instruction and ends with a SAVETOADDR instruction.
2. If the target variable of an assignment statement is not an indexed variable, then the assignment statement is translated into code that begins with a PUSHSTATADDR or PUSHLOCADDR instruction that is not immediately followed by a LOADFROMADDR instruction.
3. With the exceptions of the PUSHSTATADDR and PUSHLOCADDR instructions referred to in item 2, every PUSHSTATADDR or PUSHLOCADDR instruction is immediately followed by a LOADFROMADDR instruction.
4. The code generated for any method call includes a PASSPARAM instruction for each argument of the call, and includes a CALLSTATMETHOD instruction; if the call has arguments, then the CALLSTATMETHOD instruction is the next instruction after the last PASSPARAM.

Recommendation

When solving a hand-translation problem, check that your solution satisfies the above conditions.