

# COS 217: Introduction to Programming Systems

## SPARC Assembly Language “while” Statement Optimization

<p><b>C:</b></p> <pre>... instruction0; while (test) {     instruction1;     instruction2;     ...     instructionN; } ...</pre>	
<p><b>Assembly language:</b></p> <pre>...     instruction0 loopstart:     cmp ...     bnx loopend     nop     instruction1     instruction2     ...     instructionN     ba loopstart     nop loopend:     ...</pre>	<p><b>Optimized assembly language:</b></p> <pre>...     ba looptest     instruction0 loopstart:     instruction2     ...     instructionN looptest:     cmp ...     bx,a loopstart     instruction1     ...</pre>