

<pre> do i = 0, n-1 do j = 0, n-1 S0: x = C[i,j]; do k = 0, n-1 S1: x = x + A[i,k]*B[k,j]; end S2: C[i,j] = x; end end end end </pre>	<pre> do i = 0, n-1 do j = 0, n-1 do k = 0, n-1 S0: if (k == 0) x = C[i,j]; S1: x = x + A[i,k]*B[k,j]; S2: if (k == n-1) C[i,j] = x; end end end end </pre>
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Figure 1: (a) An imperfect loop nest for matrix multiplication. (b) The product space version with guards.