

```
1  int foo(int* U, int* V, int N, int M) {  
2      int i, j;  
3      #pragma omp parallel  
4      #pragma omp single  
5      for(i = 0; i < N; i++) {  
6          #pragma omp task depend(in: V[i*N:i*N+M]) \  
7              if (5 * M < WORK_CUTOFF)  
8              for (j = 0; j < M; j++) {  
9                  U[i] += V[i*N + j];  
10             }  
11         }  
12     return 1;  
13 }
```

The diagram illustrates the mapping of a C code snippet to assembly code. A box highlights the line `U[i] += V[i*N + j];` in the C code, and another box highlights the corresponding assembly instructions. Lines connect the C code to the assembly code, showing the mapping of the memory access and the increment operation.

Assembly code shown in the box:

```
movl    (%rsi,%rax,4), %r11d  
movslq  %r9d, %rbx  
addl    %r11d, (%rdi,%rbx,4)  
incl    %r10d  
incl    %eax
```