```
__shared__ float4 shPosition[256];
…
__global__ void accel_on_one_body()
{
    int i = threadIdx.x + blockDim.x * blockIdx.x;
    int j, k;
    int p = blockDim.x;
    float3 acc(0.0f, 0.0f, 0.0f);
    float4 myBody = body[i];

    for (j = 0; j < N; j += p) {  // Outer loops jumps by p each time
        shPosition[threadIdx.x] = body[j+threadIdx.x];
        __syncthreads();
        for (k = 0; k < p; k++) { // Inner loop accesses p positions
            acc = body_body_interaction(acc, myBody, shPosition[k]);
        }
        __syncthreads();
    }
    accel[i] = acc;
}
```

FIGURE C.8.14 CUDA code to compute the total force on each body, using shared memory to improve performance.