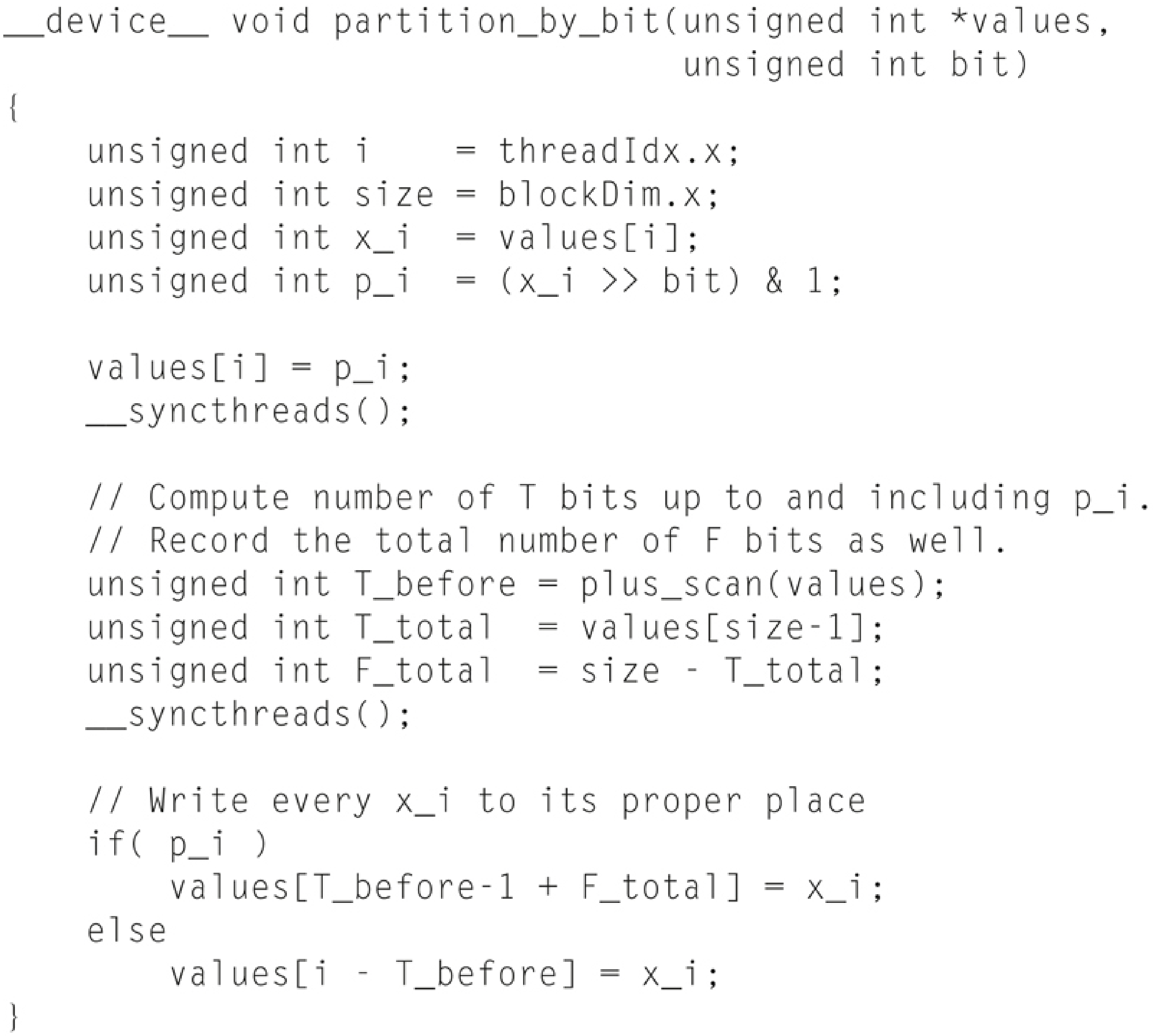

```
__device__ void partition_by_bit(unsigned int *values,
                                 unsigned int bit)
{
    unsigned int i    = threadIdx.x;
    unsigned int size = blockDim.x;
    unsigned int x_i  = values[i];
    unsigned int p_i  = (x_i >> bit) & 1;

    values[i] = p_i;
    __syncthreads();

    // Compute number of T bits up to and including p_i.
    // Record the total number of F bits as well.
    unsigned int T_before = plus_scan(values);
    unsigned int T_total  = values[size-1];
    unsigned int F_total  = size - T_total;
    __syncthreads();

    // Write every x_i to its proper place
    if( p_i )
        values[T_before-1 + F_total] = x_i;
    else
        values[i - T_before] = x_i;
}
```

FIGURE C.8.11 CUDA code to partition data on a bit-by-bit basis, as part of radix sort.