```
int a[n], sum[n], old[n];
process Sum[i = 0 to n-1] {
  int d = 1;
  sum[i] = a[i];   /* initialize elements of sum */
  barrier(i);
  ## SUM:  sum[i] = (a[i-d+1] + ... + a[i])
  while (d < n) {
    old[i] = sum[i];   /* save old value */
    barrier(i);
    if ((i-d) >= 0)
      sum[i] = old[i-d] + sum[i];
    barrier(i);
    d = d+d;   /* double the distance */
  }
}
```

Figure 3.17 Computing all partial sums of an array.