```
 1 memset(A, 0, A1_size * A2_size * sizeof(double));
 2 memset(w, 0, w1_size * sizeof(double));
 3 for (int pB1 = B1_pos[0]; pB1 < B1_pos[1]; pB1++) {
 4   int i = B1_crd[pB1];
 5   for (int pB2 = B2_pos[pB1]; pB2 < B2_pos[pB1+1]; pB2++) {
 6     int k = B2_crd[pB2];
 7     for (int pB3 = B3_pos[pB2]; pB3 < B3_pos[pB2+1]; pB3++) {
 8       int l = B3_crd[pB3];
 9       for (int j = 0; j < n; j++) {
10         int pC2 = (l * C2_size) + j;
-11         int pD2 = (k * D2_size) + j;
-12         int pA2 = (i * A2_size) + j;
-13         A[pA2] += B[pB3] * C[pC2] * D[pD2];
+14         w[j]  += B[pB3] * C[pC2];
15       }
16     }
17
+18     for (int j = 0; j < n; j++) {
+19       int pD2 = (k * D2_size) + j;
+20       int pA2 = (i * A2_size) + j;
+21       A[pA2] += w[j] * D[pD2];
+22       w[j] = 0.0;
+23     }
24   }
25 }
```