

```

01 void shell_sort_k_i_w(float *m, int n, int k, int i, int w)
02 {
03     int j = i;
04     __mmask16 ini_mask = ((unsigned int)0xFFFF) >> (16 - w);
05     __mmask16 mask = ini_mask;
06     __m512i ind_j = _mm512_add_epi32(_mm512_set1_epi32(i),
07                                     ind_straight);
08     __m512 t, q;
09
10     t = _mm512_mask_load_ps(t, mask, &m[j]);
11
12     do
13     {
14         mask = mask & _mm512_mask_cmp_epi32_mask(mask, ind_j, ind_k,
15                                                     MM_CMPINT_GE);
16         q = _mm512_mask_load_ps(q, mask, &m[j - k]);
17         mask = mask & _mm512_mask_cmp_ps_mask(mask, t, q,
18                                                 MM_CMPINT_LT);
19         _mm512_mask_store_ps(&m[j], mask, q);
20         ind_j = _mm512_mask_sub_epi32(ind_j, mask, ind_j, ind_k);
21         j -= k;
22     }
23     while (mask != 0x0);
24
25     _mm512_mask_i32scatter_ps(m, ini_mask, ind_j, t, _MM_SCALE_4);
26 }

```