

```
// 「Cで学ぶデータ構造とアルゴリズム」(西原清一)オーム社, 20081
// 図7・11 (p.158) シェル法による整列
```

```
#include<stdio.h>
```

```
#define N 8
```

```
#define M 3
```

```
int a[N+1] = {-1, 45, 30, 90, 15, 30, 50, 25, 75};
```

```
int d[M] = {4, 2, 1}; /* 減少増分列 */
```

```
void Shellsort()
```

```
{ int i, j, k, w;
```

```
  for (k=0; k < M; k++)
```

```
    for (i = d[k]+1; i <= N; i++) { /* 単純挿入法を用いる */
```

```
      w = a[i]; j = i-d[k];
```

```
      while (j > 0 && a[j] > w) {
```

```
        a[j+d[k]] = a[j]; j = j-d[k];
```

```
      }
```

```
      a[j+d[k]] = w;
```

```
    }
```

```
}
```

```
main()
```

```
{ int i;
```

```
  for (i=0; i<N+1; i++) printf("%d=%d ", i, a[i]);
```

```
  printf("<-input\n\n");
```

```
  Shellsort();
```

```
  for (i=0; i<N+1; i++) printf("%d=%d ", i, a[i]);
```

```
  printf("<-final\n\n");
```

```
}
```