UNBC   Insertion Sort Worksheet   CPSC 200

Table 1: Computations

LENGTH	OPERATION	FREQUENCY	NOTES
c_a	`data.length`		
c_b	`final int n =`		
c_c	`int i=1`		
c_d	`i<n`		
c_e	`++i`		
c_f	`data[i]`		
c_g	`final long temp =`		
c_h	`int j=i`		
c_i	`j>=1 && temp<data[j-1]`		
c_j	`--j`		
c_k	`data[j] = data[j-1]`		
c_l	`data[j] = temp`		

A Version of Insertion Sort:

```
1   public static void
2   insertionSort(long [] data)
3       {
4       final int n = data.length ;
5       for (int i=1;i<n;++i)
6           {
7           final long temp = data[i] ;
8           for (int j=i; j>=1 && temp<data[j-1]; --j)
9               {
10              data[j] = data[j-1] ;
11              }
12          data[j] = temp ;
13          }
14      }
```