

Insertion Sort (Insert Two Items Together)

Summary:

Insertion sort inserts **one item at a time**. This program **enhances** the performance to **insert two items together**, then finding out the effect of this improvement.

In this modification, we **pick two items at a time**. Then we look for the right place of the largest item, shifting items by two places at a time. After putting the largest item in its place, we keep shifting one item at a time till finding the right place for the smallest item.

The **performance** of the algorithm **against the original** insertion sort is plotted in the attached **excel file**.

The project is built using **C++**, **Code::Blocks**.

```
5 3 1 0 14 4 6 11 2 12 9
5      0 14 4 6 11 2 12 9
  3 1
    3 5 0 14 4 6 11 2 12 9
      1
1 3 5 0 14 4 6 11 2 12 9
1 3 5      4 6 11 2 12 9
      0 14
```

```
1 3 5      14 4 6 11 2 12 9
      0
0 1 3 5 14 4 6 11 2 12 9
0 1 3 5 14      11 2 12 9
      4 6
0 1 3 5      6 14 11 2 12 9
      4
0 1 3 4 5 6 14 11 2 12 9
```