Shell Sort

The shell sort starts by taking a fixed number and this number will be the width of the elements it’s comparing. For example, if the starting width is 8, the elements being compared in a 16-element long array would be index 0 and 8, index 1 and 9, index 2 and 10 and so on. It compares these pair of numbers and switches their indexes if the number in the higher index is smaller in value than the number in the lower index, if it isn’t, the number don’t change place. The sort then proceeds to a new width, or interval, by dividing by 2 to the nearest integer. So, in the example the new interval would be 4 so indexes 0 and 4, index 1 and 5, index 2 and 6, index 3 and 7, index 8 and 12 would be compared. This repeats until the interval is a length of 1 and after it loops through with an interval of 1, the array will be sorted.