random = [C, D, Y, X, A, Z, B]

sorted = [A, B, C, D, X, Y, Z]

reversed = [Z, Y, X, D, C, B, A]

Insertion sort – Random: (Red – current position, Black – unsorted list)

Iteration 0 [C,D,Y,X,A,Z,B]

Iteration 1 [C,D,Y,X,A,Z,B]

Iteration 2 [C,D,Y,X,A,Z,B]

Iteration 3 [C,D,X,Y,A,Z,B]

Iteration 4 [A,C,D,X,Y,Z,B]

Iteration 5 [A,C,D,X,Y,Z,B]

Iteration 6 [A,B,C,D,X,Y,Z]

Insertion sort – Sorted: (Red – current position, Black – unsorted list)

Iteration 0 [A,B,C,D,X,Y,Z]

Iteration 1 [A,B,C,D,X,Y,Z]

Iteration 2 [A,B,C,D,X,Y,Z]

Iteration 3 [A,B,C,D,X,Y,Z]

Iteration 4 [A,B,C,D,X,Y,Z]

Iteration 5 [A,B,C,D,X,Y,Z]

Iteration 6 [A,B,C,D,X,Y,Z]

Insertion sort – reversed: (Red – current position, Black – unsorted list)

Iteration 0 [Z,Y,X,D,C,B,A]

Iteration 1 [Y,Z,X,D,C,B,A]

Iteration 2 [X,Y,Z,D,C,B,A]

Iteration 3 [D,X,Y,Z,C,B,A]

Iteration 4 [C,D,X,Y,Z,B,A]

Iteration 5 [B,C,D,X,Y,Z,A]

Iteration 6 [A,B,C,D,X,Y,Z]

Merge sort – Random: (the number behind represent the elements in each block, the numbers of number represent the number of blocks)

1 [C,D,Y,X,A,Z,B] (4-3)

2 [C,D,Y,X,A,Z,B] (2-2-2-1)

3 [C,D,X,Y,A,Z,B] (1-1-1-1-1-1-1)

4 [C,D,X,Y,A,Z,B] (2-2-2-1)

5 [C,D,Y,X,A,B,Z] (4-3)

6 [A,B,C,D,X,Y,Z]

Merge sort – Sorted:

1 [A,B,C,D,X,Y,Z] (4-3)

2 [A,B,C,D,X,Y,Z] (2-2-2-1)

3 [A,B,C,D,X,Y,Z] (1-1-1-1-1-1-1)

4 [A,B,C,D,X,Y,Z] (2-2-2-1)

5 [A,B,C,D,X,Y,Z] (4-3)

6 [A,B,C,D,X,Y,Z]

Merge sort – Reversed:

1 [Z, Y, X, D, C, B, A] (4-3)

2 [Z, Y, X, D, C, B, A] (2-2-2-1)

3 [Z, Y, X, D, C, B, A] (1-1-1-1-1-1-1)

4 [Z, Y, D, X, B, C, A] (2-2-2-1)

5 [D, X, Y, Z, A, B, C] (4-3)

6 [A ,B, C, D, X, Y, Z]

Tim sort -Random

Iteration 0 [C,D,Y,X,A,Z,B]

(Split)[C,D,Y,X,A,Z,B]

Iteration 1 [C,D,Y,A,X,Z,B]

Iteration 2 [A,C,D,X,Y,Z,B]

Iteration 3 [A,B,C,D,X,Y,Z]

Tim sort - Sorted

Iteration 0 [A,B,C,D,X,Y,Z]

(Split) [A,B,C,D,X,Y,Z]

Iteration 1 [A,B,C,D,X,Y,Z]

Iteration 2 [A,B,C,D,X,Y,Z]

Iteration 3 [A,B,C,D,X,Y,Z]

Tim sort-Reversed

Iteration 0 [Z,Y,X,D,C,B,A]

(Split) [Z,Y,X,D,C,B,A]

Iteration 1 [X,Y,Z,B,C,D,A]

Iteration 2 [B,C,D,X,Y,Z,A]

Iteration 3 [A,B,C,D,X,Y,Z]