

- Column 1: Programs for sorting integers

- [bitsort.c](#) -- Sort with bit vectors.

- [sortints.cpp](#) -- Sort using C++ STL sets.

- [qsortints.c](#) -- Sort with C library qsort.

- [bitsortgen.c](#) -- Generate random integers for sorting.

- Column 2: Test and time algorithms

- [rotate.c](#) -- Three ways to rotate the elements of a vector.

The next two program are used in a pipeline to compute all anagrams in a dictionary

- [sign.c](#) -- Sign each word by its letters in sorted order.

- [squash.c](#) -- Put each anagram class on a single line.

- Column 5: Scaffolding for testing and timing search functions

- [search.c](#) -- Linear and binary search.

- Column 7: Tiny experiment on C run times

- [timemod0.c](#) -- Edit main to time one operation.

- Column 8: Compute the maximum-sum subsequence in an array

- [maxsum.c](#) -- Time four algs: n^3 , n^2 , $n \log n$, n .

- Column 9: Code tuning programs

- [genbins.c](#) -- Profile this, then try a special-purpose allocator.

- [macfun.c](#) -- Time the cost of macros and functions.

The column also uses rotate.c (Column 2), search.c (Column 5) and maxsum.c (Column 8).

- Column 11: Test and time sorting algorithms

- [sort.cpp](#) -- Mostly C, but also C++ sort function.

- [SortAnim.java](#) -- Animate those sort functions in Java.

- Column 12: Generate a sorted list of random integers

- [sortedrand.cpp](#) -- Several algorithms for the task.

- Column 13: Set representations for the problem in Column 12

- [sets.cpp](#) -- Several data structures for sets.

genbins.c (Column 9) implements the bin data structure in C.

- Column 14: Heaps

- [priqueue.cpp](#) -- Implement and test priority queues.

The column also uses sort.c (Column 11) for heapsort.

- Column 15: Strings

- [wordlist.cpp](#) -- List words in the file, using STL set.

- [wordfreq.cpp](#) -- List words in the file, with counts, using STL map.

- [wordfreq.c](#) -- Same as above, with hash table in C.

- [longdup.c](#) -- Find long repeated strings in input.

- [markov.c](#) -- Generate random text from input.

- [markovhash.c](#) -- Like markov.c, but with hashing.

- [markovlet.c](#) -- Letter-level markov text, simple algorithm.

- Appendix 3: Cost Models

[spacemod.cpp](#) -- Space used by various records.

[timemod.c](#) -- Table of times used by various C constructs.

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