Shellsort

Drazen Herendic

COLLABORATORS			
	TITLE : Shellsort		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY	Drazen Herendic	July 22, 2024	

REVISION HISTORY			
NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

Shellsort

1.1   Shellsort Guide by D. Herendic

Table of Contents:

1.2   Introduction

Shellsort is an implementation of one algorythm in C which is,

as far I know, best and fastest algorythm for sorting (If anybody

knows about any better algorythm, let me know). I wrote this program

because I wanted to have faaaast sort, and I did it. This program is

about 9 to 10 times faster than sort we have on Workbench.

1.3   Algorythm

Here is sample of algorythm in C source:

```
void shellsort(char *p[], short n){
short dist,i,j;
char *temp;
for(dist=n/2;dist>0;dist/=2){
for(j=i-dist;j>0 && strcmp(p[j],p[j+dist])>0;j-=dist){
```

```
temp=p[j];

p[j]=p[j+dist];

p[j+dist]=temp;

}

}

}

/* *p[] - text lines, n - number of lines */
```

1.4   Requirements and explanations

This program should work on any Amiga with enough memory. Enough

means folowing: size of the file to sort * 2 + number of lines

in the file * 5 (in bytes). Why so much? Because I used double buffering

plus additonal buffer for pointers. This program was BUILT FOR SPEED and

on the first place for speed. You won't sort files every day, so

when you do it do it fast. Or if you do sort every day, do it fast anyway.

Using stdin and stdout will slow down sort and I didn't implement that, and

wildcards too.

1.5   Using Shellsort

Only possible usage is from CLI.

> shellsort [-n] [-oX] [-c] <input file> <output file>

There are three options:

-n This means that any special character(s) at beginning of line (with

ASCII code less than #32) is (are) ignored and won't be

in output file. Of course, characters with code greater than 126

aren't ignored.

-oX This option is for sorting with offset X from begining of the line.

This is on the first place for files that have listings of dirs

and files, or in other words for files which have lines of same

length. Of course, you can use it for any purpose.

Warning!

Take care when you have files with diferent line lengths and you

use this option; if offset is greater than length of a line

then there will be error in sorting, because you jumped entire line

and get somewhere into the middle of another line.

-c Default is case sensitive sorting. With this option you turn off

case sensitivity.

NOTE! Last line in input file MUST have line feed, or there will be

some trash at the end of the output file.

1.6   In future...

This chapter should write the users. I hope there will be
at least a few people who used my program. If there will be interst
maybe i'll improve this program. But, remember that if there is more
options we'll get biger code and slower code.

1.7   Legal Stuff

COPYRIGHT NOTICE

Shellsort software and documentation are Copyright © 1994 by Drazen
Herendic. All rights reserved, except algorythm.

DISCLAIMER

Shellsort was tested a lot of times and it worked good. I think that
anyone who wants to go to far with experiments with this program,
probably will do a mess. But under normal conditions sort will
work fine.

PREFACE

This program is freeware, this means that you can copy it freely
as long as you don't ask any more money for it than a nominal
fee for copying. If you want to distribute this program you
should keep this document with it. This program cannot be used
for commercial purposes without written permission from the
author.

None of the files of the Shellsort package may be modified or
left out without permission of the author. Crunching or
archiving is allowed only if none of the Shellsort files get
modified by it.

Special permission is hereby granted to include Shellsort in
Public-Domain collections such as Fred Fish's Amiga Library.

1.8   About the author and the program

I was writing this code about 1 year because I wasn't in rush and
this was one of many things I had to do and I was doing. First
version was finished about 2-3 days after starting of my work, and
there were a few versions that I wrote but I wasn't taking special
notes about versions. These versions were, let's say, internal.
Last Year I uploaded my first version on ftp site "ftp.funet.fi"

and probably it's still there.

Shellsort was writen and tested mainly on my A1200 with HD.

Source code you can use with any assembler, eg. AsmOne, Trash'em One,...

I tested sort also on an A1200 with GVP1230 and HD, on A4000 with

Cyberstorm 040/40 with 16 Meg RAM. Program did goooood job.

For example, 1.5 M file was sorted in 7 seconds, and with AmigaDOS Sort

I was waitnig over 5 minutes and pressed Ctrl-C !? So, what do you think?

If you have suggestions or remarks about this program, or if you

find any bugs, please let me know.

When sending in bug reports, please state exactly under what

circumstances the bug occurred, what equipment was used and what

happened. If possible also try to give me enough information to

reproduce the bug. It is very difficult to find bugs when you

don't know exactly what happened.

Write to the following address:

E-mail: drazen.herendic@fer.hr

drazen.herendic@public.srce.hr

Mail: Drazen Herendic

Ul. 26. lipanj 9

43240 Cazma

CROATIA - Europe

1.9   Personal Greetings

Greetings to all my friends in Croatia, and also to you people who

write a lot of code on our favorite computer.

Drazen :-)

1.10   Apology

I apologize for comments in source, because they are written in

Croatian, but I didn't have time to translate them. Anyway, anyone

who understands programming on Amiga should understand my program also

because there is nothing complicated.