Line printer file to PostScript converter

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lptops converts normal text files into PostScript for printing on the Apple LaserWriter, or any other PostScript-compatible printing device. It supports selection of a variety of fonts at arbitrary point sizes, margin specification, portrait and landscape page orientation, automatic page numbering, page outlining, and multi-column printing. It can also handle overstruck text used by many document formatters for underlining.

Usage:

```
        lptops [switches] <infile >outfile
        lptops [switches] filelist >outfile
```

In the switch descriptions below, physical dimensions described as # may be specified as a single number with an optional fractional part, and a required two-letter unit designator. Letter case is ignored. Possible forms are:

```
#.##bp  big point (1in = 72bp)       [Courier: 120.000/Pbp cpi]
#.##cc  cicero (1cc = 12dd)          [Courier:   9.381/Pcc cpi]
#.##cm  centimeter                   [Courier:   4.233/Pcm cpi]
#.##dd  didot point (1157dd = 1238pt)[Courier: 112.569/Pdd cpi]
#.##in  inch                         [Courier:   1.667/Pin cpi]
#.##mm  millimeter (10mm = 1cm)      [Courier:  42.333/Pmm cpi]
#.##pc  pica (1pc = 12pt)            [Courier:  10.038/Ppc cpi]
#.##pt  point (72.27pt = 1in)        [Courier: 120.450/Ppt cpi]
#.##sp  scaled point (65536sp = 1pt) [Courier:   7.893/(Psp/1000000) cpi]
```

The bracketed values give the number of characters per inch (cpi) for a point size of P units with the fixed-width Courier font. For example, with point size 8bp, there are 120/8 = 15 characters per inch. With point size 1000000sp, there are 7.893 characters/inch.

The optional switches are (letter case is ignored):

-A
: Turn Scribe-like bold and italic requests (@b[...] and @i[...]) into bold or italic text.

-B#
: Bottom margin of #.

-Cn
: Print n copies of each page.

-D[tb][n]
: Display header or footer in the following format:

```
   Date/Time         File Name            Page #
```

The position can be selected explicitly by t (top) or b (bottom). If n is given, start numbering with that value, and otherwise with 1. If an initial top margin value is given with the -I# option, numbering will be omitted on the first page if it is at the top. Pages are unnumbered if this option or the N option is not specified.

-Ffontname
: PostScript fontname. Possible values with acceptable short abbreviations formed from the upper-case letters in the font names, and the ditroff and Adobe TranScript abbreviations are as follows. The first 13 are available on all PostScript printers; the remainder are available only on enhanced printers, such as the Apple LaserWriter Plus.

full name	short	ditroff	TranScript
Courier	C	C	C
Courier-Bold	CB	CB	CB
Courier-BoldOblique	CBO	CD	CD
Courier-Oblique	CO	CO	CO
Helvetica	H	he	he
Helvetica-Bold	HB	He	He
Helvetica-BoldOblique	HBO	HE	HE
Helvetica-Oblique	HO	hE	hE
Symbol	S	S	S
Times-Bold	TB	R	ti
Times-BoldItalic	TBI	BI	TI
Times-Italic	TI	I	tI
Times-Roman	T	R	ti
AvantGarde-Book	AGB	ag	ag
AvantGarde-BookOblique	AGBO	aG	aG
AvantGarde-Demi	AGD	Ag	Ag
AvantGarde-DemiOblique	AGDO	AG	AG
Bookman-Demi	BD	Bo	Bo
Bookman-DemiItalic	BDI	BO	BO
Bookman-Light	BL	bo	bo
Bookman-LightItalic	BLI	bO	bO
Helvetica-Narrow	HN	hn	hn
Helvetica-Narrow-Bold	HNB	Hn	Hn
Helvetica-Narrow-BoldOblique	HNBO	HN	HN
Helvetica-Narrow-Oblique	HNO	hN	hN
NewCenturySchlbk-Bold	NCSB	Nc	Nc
NewCenturySchlbk-BoldItalic	NCSBI	NC	NC
NewCenturySchlbk-Italic	NCSI	nC	nC
NewCenturySchlbk-Roman	NCSR	nc	nc
Palatino-Bold	PB	Pa	Pa
Palatino-BoldItalic	PBI	PA	PA
Palatino-Italic	PI	pA	pA
Palatino-Roman	PR	pa	pa
ZapfChancery-MediumItalic	ZCMI	ZC	ZC
ZapfDingbats	ZD	ZD	ZD

The ditroff and TranScript abbreviations are the same, except for the Courier and Times fonts. They are based on two-letter mnemonics, where upper-case in the first letter means bold, and upper-case in the second letter means italic.

Only the Courier fonts are fixed-width like typewriter and line printer fonts are. The others are proportional spaced for improved readability, and consequently, tabular material will not line up properly with them. The Courier fonts have a width equal to 0.6 of their point size, so to fill a line W inches wide with up to N characters, one must have point size <= (W/(0.6 * N * 72)) = (W*120)/N pt. Equivalently, with a point size P pt, the output spacing is 120/P char/inch.

-H
: Horizontal page orientation (landscape mode) instead of vertical page (portrait mode).

-I#
: Top margin of # for initial page (for letterheads); if not specified, it will default to the value given for the top margin by default or by the -T# command.

-L#
: Left margin of #.

-Mn
: Multiple column output (n columns). In multiple column mode, formfeeds cause column breaks instead of page breaks.

-N[tb][lcr][n]
: Number output pages. The number is placed by default in the center of the top margin, but the margin can be selected explicitly by t (top) or b (bottom), and the position of the page number can be further specified by l (left), c (center), or r (right). If n is given, start numbering with that value, and otherwise with 1. If an initial top margin value is given with the -I# option, numbering will be omitted on the first page if it is at the top. Pages are unnumbered if this option or the D is not specified.

-O[#]
: Outline pages (and columns) with a # units wide. A narrow line of 0.4pt width is assumed if # is omitted; this particular width is what TeX uses in typesetting.

-P#
: Font point size (default 10bp). The baseline skip (spacing between successive character baselines) is conventionally chosen to be 6/5 of this value, so that

```
        with 10bp  type,  we  have  12bp  between  lines,  or  6
        lines/inch, the same as standard printer output.

-R#     Right margin of #.

-S[n]   special handling  (i.e. manual paper feed) for the first
        n pages  of the  output.  If  N multiple  copies are  in
        effect, then N*n sheets must  be fed manually.  If n  is
        omitted, then all  pages are  to be  fed manually.   For
        example, -S1 is convenient  to get the  first page of  a
        letter on letterhead paper fed manually, with  remaining
        pages from the paper cassette.

-T#     Top margin of #.

-U      Output pages in unsorted  (first to last) order  instead
        of in  sorted  (page reversed)  order;  some  PostScript
        printers have page handlers that stack the paper in this
        order.   The   default  is   sorted  because   this   is
        appropriate for the most common PostScript printer,  the
        Apple LaserWriter.
```

Defaults are:

```
-B1.0in -C1 -FCourier -L1.0in -M1 -P10bp -R1.0in -S0 -T1.0in
```