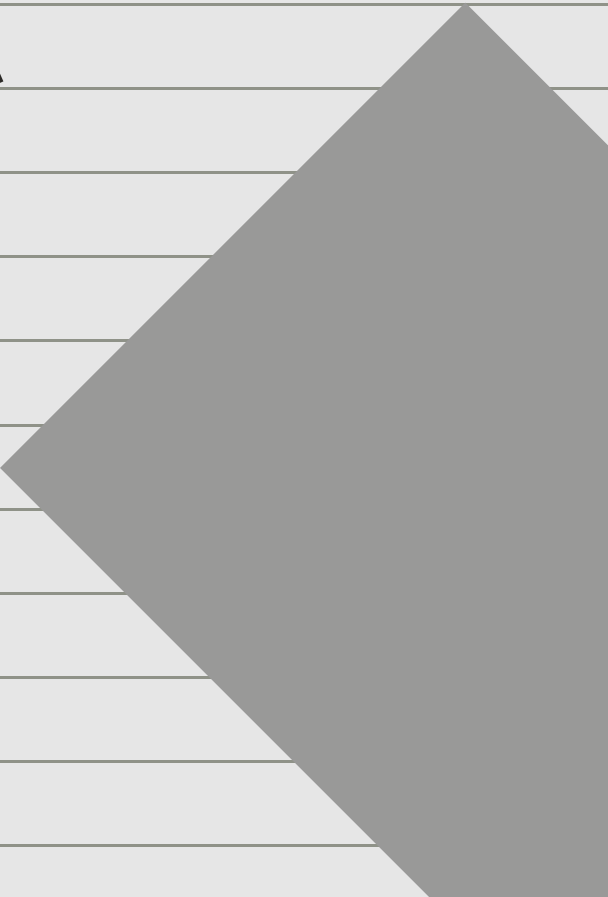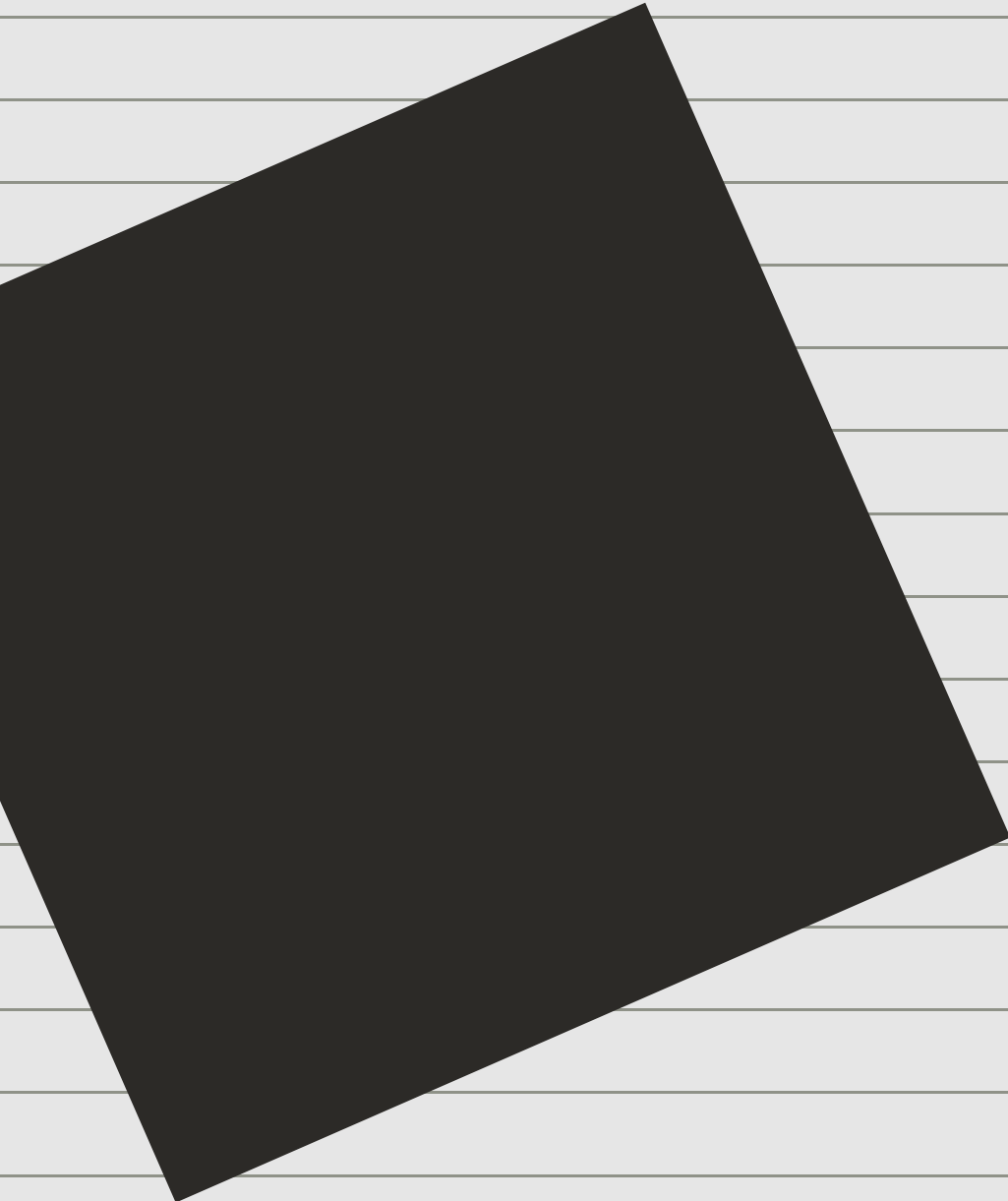# Apple II

OpenType
Font Collection

A Legacy Computing Typeface

Apple II

OpenType
Font Collection
A Legacy Computing Typeface

Apple II

OpenType
Font Collection
A Legacy Computing Typeface

Apple II Pro
Apple II Neg Pro
Apple II Alt Pro
Apple II Alt Neg Pro

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Contents

1   Introduction

2   Apple II Pro

3 Apple II Alt Pro

4 Alternate Character Shortcuts

5 ASCII Character Set

6 Apple II Personal Computer

7 What the font?

1 Introduction

What is OpenType?

Developed jointly by Adobe and Microsoft, OpenType is a highly versatile modern font file format that represents a significant advance in type functionality on Apple Mac and Windows based computers.

Advantages

The three major groundbreaking characteristics of OpenType fonts are their multi-platform support, expanded character set, and glyph substitution. Multi-platform support means that an OpenType font will run on both the Mac and Windows platforms.

This is a real convenience when your office uses both platforms or you use a PC at work and a Mac at home (or vice versa).

Expanded character set refers to the fact that OpenType fonts have the capacity to contain thousands of characters, as opposed to the 256-character capacity of the earlier Type 1 and TrueType fonts.

Glyph substitution refers to the built-in intelligence some OpenType fonts have that enables them to 'know' when to insert situational glyphs including certain ligatures, swashes, or other special characters. For instance, some swash characters are intended to be used only at the beginning or end of a word. An OpenType font with this information programmed into it will only insert them in these instances when using a supporting application such as Adobe InDesign, Illustrator and Photoshop.

File Type

OpenType ".otf" fonts are compact single-file cross-platform fonts, which can have extended language support based on Unicode, and enhanced typographic layout features.

www.adobe.com/type/opentype

OpenType Features

Apple II Pro and Apple II Alt Pro take full advantage of OpenType default features plus many additional custom stylistic sets.

Default Features

All OpenType features deal with the replacement of characters. It always comes down to the same thing: substitute a single character or a sequence of characters by another character. The difference can be as subtle as a slightly longer or shorter descender, or as distinctive as a decorative swash or something totally different like MouseText.

These alternates can fall under the OpenType Default Category of swash characters, contextual, stylistic or titling alternates, or discretionary ligatures, and can offer options to vary the overall look, personality, and sometimes legibility of a typeface. In addition, they can be combined and randomly substituted for the default character to create a more natural, less repetitive flow, which can be desirable in handwriting, calligraphic, and script fonts.

Custom Stylistic Sets

Stylistic sets are custom OpenType features that can vary from font to font, each makes it easier to use a font's alternate characters. Instead of leaving it to the user to manually replace every incidence of a character with a desired alternate. A stylistic set allows users to select an entire range of text, and apply this one kind of substitution. Stylistic sets are available in most modern design software.

Different fonts may contain different stylistic sets anywhere from one to 20 sets of alternates. Both Apple II Pro and Apple II Alt Pro contain several stylistic sets.

www.opentypecookbook.com

Symbols for Legacy Computing

Version 13.0 of the Unicode Standard, released March 2020, includes many (but not all) of the MouseText characters in the Symbols for Legacy Computing block. Those that are, can be found in Apple II Pro and Apple II Alt Pro corresponding to the correct Unicode.

www.unicode.org

Enable OpenType Features

Apple Applications

All native Apple applications including Pages, Keynote, Numbers and TextEdit support OpenType features. First you need to show the **Fonts** window which can be found via the **Format menu** or by using the keyboard shortcut **CMD+T**. Then click the little gear icon button and choose **Typography**, a list of available features will be shown.

Adobe Photoshop

In Photoshop, the OpenType features can be found in the **Character panel** which is accessed via the **Window menu**. There are some handy shortcuts in the main panel or you can access a list via the top right menu icon.

Adobe Illustrator

Illustrator is a little different to Photoshop, the OpenType features are not in the Character panel instead they have their own **OpenType panel** which can be accessed via the **Window > Type** menu.

Adobe InDesign

OpenType features are enabled via the **Character window** using InDesign. Unlike Photoshop there are not currently any shortcuts in the main panel so you will need to click the menu button in the top right corner of the window and go to **OpenType**.

Microsoft Word

To access OpenType features in MS Word, go to **Modify Style**, click **Format** then select **Font**, once the dialog box appears select the **Advanced** tab and OpenType Features will appear for selection and modification.

LibreOffice

An Open Source and Free Office Suite with a full range of OpenType features.

www.libreoffice.org

Apple II Pro

2 Apple II Pro

Apple II Pro is a vastly expanded version of the original Apple IIc and Apple IIe internal character sets all combined into one font which is also WGL4 compliant.

WGL4 fonts is a glyph list published by Microsoft Corporation.

Character Coverage

Code Pages:

- ☑ 1252 Latin 1
- ☑ 1250 Latin 2: Eastern Europe
- ☑ 1251 Cyrillic
- ☑ 1253 Greek
- ☑ 1254 Turkish
- ☑ 1257 Windows Baltic
- ☑ Macintosh Character Set (Roman)
- ☑ OEM Character Set

Unicode Ranges:

- ☑ Basic Latin
- ☑ Latin-1 Supplement
- ☑ Latin Extended-A
- ☑ Spacing Modifier Letters
- ☑ Spacing Modifier Letters
- ☑ Greek and Coptic
- ☑ Cyrillic
- ☑ Cyrillic Supplement
- ☑ General Punctuation
- ☑ Superscripts and Subscripts
- ☑ Currency Symbols
- ☑ Letter like Symbols
- ☑ Number Forms
- ☑ Arrows
- ☑ Mathematical Operators
- ☑ Miscellaneous Technical
- ☑ Control Pictures
- ☑ Box Drawing
- ☑ Block Elements
- ☑ Geometric Shapes
- ☑ Misc. Mathematical Symbols-A
- ☑ Supplemental Arrows-A
- ☑ Misc. Mathematical Symbols-B
- ☑ Supplemental Mathematical Operators
- ☑ Misc. Symbols and Arrows
- ☑ Cyrillic Extended-A
- ☑ Supplemental Punctuation
- ☑ Cyrillic Extended-B
- ☑ Modifier Tone Letters
- ☑ Private Use Area (plane 0)
- ☑ Alphabetic Presentation Forms

Main Character Sets

Basic Latin

```
1234567890ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz~@#$%^&*( )_+`-=
[]{};‘\:’”`|,./<>?\
```

Accented Characters

```
áâàäåãāąǎçćĉċčďđèèèèěĝĝèèèŋ
ĝĝĝħĀĪîïīîĪĪĴĵñńdòòòôöõőøķłíïłŀ
ńńŋŕŕŗśŝşşşşþþţúûûǔüûůŷöŏ
ŵŵẁẅýỳŷŷẑžž`´^°″˳

ĀĀĀÂÀĀŖÃĄÆĈĈĈĈĎĐÈÈÈÈŊŦŦĜĜĜAÏIJT!ŦĴKĽĽŁŁ
ńÑŊÒÒÒŔŔŖŚŜŞŞŦŦŢŮŮŮŶŎŎŴŴ
ẁŶÝŹŻİÇÈÈÈÈÌÍÏÌÑdòòòòøŞúòüüŷž
```

Cyrillic

```
А Б В Г г Д Е Ж З И Й К Л М Н О П Р С Т У
Ф Х Ц Ч Ш Щ Ъ Ы Ь Э Ю Я Ё Ђ Ѓ Є Ѕ І Ї Ј Љ
Њ Ћ Ќ Ў Џ Ѣ

а б в г г д е ж з и й к л м н о п р с т у
ф х ц ч ш щ ъ ы ь э ю я ё ђ ѓ є ѕ і ї ј љ
њ ћ ќ ў џ ѣ
```

Greek

```
Α Β Γ Δ Ε Ζ Η Θ Ι Κ Λ Μ Ν Ξ Ο Π Ρ Τ Υ Φ Χ
Ψ Ω Ά Έ Ή Ί Ϊ Ό Ύ Ϋ Ώ Σ

α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ τ υ ψ χ
ψ ω ά έ ή ί ϊ ό ύ ϋ ώ σ
```

OpenType Standard Features

- ☑ Standard Ligatures
- ☐ Contextual Alternatives
- ☑ Discretionary Ligatures
- ☑ Swash
- ☑ Stylistic Alternatives

- ☑ Titling Alternatives
- ☑ Ordinals
- ☑ Fractions
- ☑ Stylistic Sets

Standard Ligatures

ff	fi	fl	ft	ffi	ffl
ff	fi	fl	ft	ffi	ffl

Discretionary Ligatures

Th	ct	fb	fh	fj	fk	ft	st	ffb
Th	ct	fb	fh	fj	fk	ft	st	ffb

Swash (Script Characters)

a	b	c	d	e	f	g	h	i	j	k	l	m	n
a	b	c	d	e	f	g	h	i	j	k	l	m	n

o	p	q	r	s	t	u	v	w	x	y	z	@	&
o	p	q	r	s	t	u	v	w	x	y	z	@	&

Stylistic Alternatives - Inverse (Negative)

The Negative or (Inverse) character set contains the most popular used characters covering the Code Page 1251 Latin 1. For a complete Inverse Character Set, Apple II NEG Pro is available for use.

Titling Alternatives - Italic Characters

A	B	C	D	E	F	G	H	I	J	K	L
M	N	O	P	Q	R	S	T	U	V	W	X
Y	Z	a	b	c	d	e	f	g	h	i	j
k	l	m	n	o	p	q	r	s	t	u	v
w	x	y	z	0	1	2	3	4	5	6	7
8	9	!	@	#	$	%	^	&	*	<	>
+	=	[	]	.	;	(			)	?	/	\

Ordinals

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

+	−	=	(	)	n	No.		
+	−	=	<	>	n	№		

Fractions

1/2	1/3	1/4	1/5	1/6	1/7	1/8	1/9	1/10
1/2	1/3	1/4	1/5	1/6	1/7	1/8	1/9	1/10

2/3	2/5	3/4	3/5	3/8	4/5	5/6	5/8	7/8
2/3	2/5	3/4	3/5	3/8	4/5	5/6	5/8	7/8

Stylistic Sets

Apple II Pro contains the following stylistic sets:

1. MouseText
     Pseduo GUI - 32 Characters.

2. Small Fractions
     Three characters become one character.

3. Segmented Digital
     Digital Clock Numbers.

4. Script Lowercase
     Small case letters hand written in appearance.

5. Small Caps Alphanumeric
     Capital letters which are the height of small case letters.

6. Inverse
     Negative Character Set

7. Italic
     Slanted characters.

8. Bold
     Heavier set characters.

✎ **Some applications such as MS Word 2016 will show only the stylistic number not the actual name.**

Apple MouseText Characters

MouseText is a set of 32 graphical characters first implemented in the Apple //c to create a pseudo graphical interface. They were then retrofitted to the Apple IIe forming part of the Enhanced IIe upgrade.

Apple II Pro uses the same corresponding ASCII characters as per the Apple Reference Manual which can be accessed by choosing Stylistic Set 1.

✎ **Some Stylistic Sets are duplicates of OpenType Defaults; for applications such as Microsoft Office 2016 which doesn't support all OpenType Defaults.**

Stylistic Set 01 – MouseText

@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O

P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_

Stylistic Set 02 – Small Fractions

1/2	1/3	1/4	1/5	1/6	1/7	1/8	1/9	1/10

2/3	2/5	3/4	3/5	3/8	4/5	5/6	5/8	7/8

Stylistic Set 03 – Segmented Digital

0	1	2	3	4	5	6	7	8	9

Stylistic Set 04 – Script Lowercase

a	b	c	d	e	f	g	h	i	j	k	l	m	n

o	p	q	r	s	t	u	v	w	x	y	z	@	&

Stylistic Set 05 – Small Caps

0	1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z				

✏️ **Apple II Pro contains actual small cap characters. Some applications such as Word 2016 use computer generated ones that are just reduced capitals. Such characters are considered to be typographically undesirable by professionals.**

Stylistic Set 06 – Inverse (Negative)

Negative or (Inverse) contains the most popular used characters, Code Page 1251 Latin 1. For a complete Inverse Character Set, Apple II NEG Pro can be used.

Stylistic Set 07 – Italic

A	B	C	D	E	F	G	H	I	J	K	L
M	N	O	P	Q	R	S	T	U	V	W	X
Y	Z	a	b	c	d	e	f	g	h	i	j
k	l	m	n	o	p	q	r	s	t	u	v
w	x	y	z	0	1	2	3	4	5	6	7
8	9	!	@	#	$	%	^	&	*	(	)
+	=	[	]	.	;	{	|	}	?	/	\

Stylistic Set 08 – Bold

A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z				
a	b	c	d	e	f	g	h	i	j
k	l	m	n	o	p	q	r	s	t
u	v	w	x	y	z				
0	1	2	3	4	5	6	7	8	9
<	>	{			}	[	]	(	)	?
~	@	#	$	%	&	_	`	-	=
.	,	+	*	^	/	\	:	;	

Id Adobe InDesign Custom Glyph Sets

You can create your own library of often-used symbols or special characters—for instance, a collection of currency symbols—*by creating a custom glyph set*.

Open the **Glyphs** panel from the **Type** menu or the **Window > Type and Tables** sub menu. Choose **New Glyph Set** from the panel menu, and name it.

Then select a glyph in the panel, and choose **Add to Glyph Set** from the panel menu or from the contextual menu (right-click on the glyph). You can include glyphs from different typefaces in the same glyph set.

Being able to load your custom-made sets (choose it from the top of the **Show** pop-up menu, or choose **View Glyph Set** from the panel menu) in the **Glyphs** panel saves you from having to scroll through the entire font's worth of glyphs just to find that one you need.

Apple II Alt Pro

3 Apple II Alt Pro

Apple II Alt Pro is an alternate version of Apple II Pro with a reduced character set featuring the upper and lowercase alphabet having a more serif look, plus a different numeric set.

Character Coverage

Code Pages:

- ☐ 1252 Latin 1
- ☐ 1250 Latin 2: Eastern Europe
- ☐ 1251 Cyrillic
- ☐ 1253 Greek
- ☐ 1254 Turkish
- ☐ 1257 Windows Baltic
- ☐ Macintosh Character Set (Roman)
- ☑ OEM Character Set

Unicode Ranges:

- ☑ Basic Latin
- ☑ Latin-1 Supplement
- ☐ Latin Extended-A
- ☐ Spacing Modifier Letters
- ☐ Spacing Modifier Letters
- ☐ Greek and Coptic
- ☐ Cyrillic
- ☐ Cyrillic Supplement
- ☑ General Punctuation
- ☑ Superscripts and Subscripts
- ☑ Currency Symbols
- ☐ Letter like Symbols
- ☑ Number Forms
- ☑ Arrows
- ☐ Mathematical Operators
- ☐ Miscellaneous Technical
- ☑ Control Pictures
- ☑ Box Drawing
- ☑ Block Elements
- ☐ Geometric Shapes
- ☐ Misc. Mathematical Symbols-A
- ☑ Supplemental Arrows-A
- ☑ Misc. Mathematical Symbols-B
- ☐ Supplemental Mathematical Operators
- ☑ Misc. Symbols and Arrows
- ☐ Cyrillic Extended-A
- ☑ Supplemental Punctuation
- ☐ Cyrillic Extended-B
- ☐ Modifier Tone Letters
- ☑ Private Use Area (plane 0)
- ☑ Alphabetic Presentation Forms

Main Character Set

Basic Latin

```
1234567890ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz~@#$%^&*()_+`-=
[]{};'\:'"`|,./<>?\ø0
```

OpenType Standard Features

- ☑ Standard Ligatures
- ☐ Contextual Alternatives
- ☑ Discretionary Ligatures
- ☑ Swash
- ☑ Stylistic Alternatives

- ☐ Titling Alternatives
- ☑ Ordinals
- ☑ Fractions
- ☑ Stylistic Sets

Standard Ligatures

f f	f i	f l	ſt	f f i	f f l
ff	fi	fl	ſt	ffi	ffl

Discretionary Ligatures

Th	ct	f b	f h	f j	f k	f t	st	f f b
Th	ct	fb	fh	fj	fk	ft	st	ffb

Swash (Script Characters)

a	b	c	d	e	f	g	h	i	j	k	l	m	n
a	b	c	d	e	f	g	h	i	j	k	l	m	n

o	p	q	r	s	t	u	v	w	x	y	z	@	&
o	p	q	r	s	t	u	v	w	x	y	z	@	&

Stylistic Alternatives - Inverse (Negative)

The Negative or (Inverse) character set contains the most popular used characters. For a complete Inverse Character Set, Apple II Alt NEG Pro is available for use.

Ordinals

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

+	−	=	(	)	n				
+	-	=	<	>	ᴧ				

Fractions

1/2	1/3	1/4	1/5	1/6	1/7	1/8	1/9	1/10
$1/2$	$1/3$	$1/4$	$1/5$	$1/6$	$1/7$	$1/8$	$1/9$	$1/10$

2/3	2/5	3/4	3/5	3/8	4/5	5/6	5/8	7/8
$2/3$	$2/5$	$3/4$	$3/5$	$3/8$	$4/5$	$5/6$	$5/8$	$7/8$

Stylistic Sets

Apple II Alt Pro contains the following stylistic sets:

1. MouseText Running Man
> Pseudo GUI - 32 Characters.

2. Small Fractions
> Three characters become one character.

3. Segmented Digital
> Numbers similar to a digital clock.

4. Script Lowercase
> Small case letters hand written in appearance.

5. Small Caps Alphanumeric
> Capital letters which are the height of small case letters.

6. Inverse
> Negative character set.

✏️ **Some applications such as MS Word 2016 will show only the stylistic number not the actual name.**

Apple MouseText Characters

MouseText is a set of 32 graphical characters first implemented in the Apple //c to create a pseudo graphical interface. They were then retrofitted to the Apple IIe forming part of the Enhanced IIe upgrade.

Apple II Alt Pro uses the same corresponding ASCII characters as per the Apple Reference Manual which can be accessed by choosing Stylistic Set 1.

✏️ **Some Stylistic Sets are duplicates of OpenType Defaults; for applications such as Microsoft Office 2016 which doesn't support all OpenType Defaults.**

Stylistic Set 01 – MouseText

@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O

P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_

Stylistic Set 02 – Small Fractions

1/2	1/3	1/4	1/5	1/6	1/7	1/8	1/9	1/10

2/3	2/5	3/4	3/5	3/8	4/5	5/6	5/8	7/8

Stylistic Set 03 – Segmented Digital

0	1	2	3	4	5	6	7	8	9

Stylistic Set 04 – Script Lowercase

a	b	c	d	e	f	g	h	i	j	k	l	m	n

o	p	q	r	s	t	u	v	w	x	y	z	@	&

Stylistic Set 05 – Small Caps

0	1	2	3	4	5	6	7	8	9
A	B	C	D	E	F	G	H	I	J
K	L	M	N	O	P	Q	R	S	T
U	V	W	X	Y	Z				

Apple II Alt Pro contains actual small cap characters. Some applications such as Word 2016 use computer generated ones that are just reduced capitals. Such characters are considered to be typographically undesirable by professionals.

Stylistic Set 06 – Negative (Inverse)

The Negative or (Inverse) stylistic set contains the most popular used characters. For a complete Inverse Character Set, Apple II Alt NEG Pro can be used.

Adobe InDesign Custom Glyph Sets

You can create your own library of often-used symbols or special characters—for instance, a collection of currency symbols—*by creating a custom glyph set*.

Open the **Glyphs** panel from the **Type** menu or the **Window > Type and Tables** submenu. Choose **New Glyph Set** from the panel menu, and name it.

Then select a glyph in the panel, and choose **Add to Glyph Set** from the panel menu or from the contextual menu (right-click on the glyph). You can include glyphs from different typefaces in the same glyph set.

Being able to load your custom-made sets (choose it from the top of the **Show** pop-up menu, or choose **View Glyph Set** from the panel menu) in the **Glyphs** panel saves you from having to scroll through the entire font's worth of glyphs just to find that one you need.

4 Alternate Character Shortcuts

Macintosh

Font Book

Font Book lets you easily install and preview fonts; search through them for almost any glyph or character effortlessly.

https://support.apple.com/en-ca/guide/font-book/toc

Microsoft Windows

Alt key

In Microsoft Windows, holding down the Alt key while typing in numbers (often referred to as Alt codes) on the numeric keypad allows the user to type special characters not normally available on the keyboard such as foreign languages, symbols and more.

The following tables features keyboard shortcuts to access the most commonly used alternate characters for Microsoft Windows.

With Numeric Keypad

a. Make sure your keyboard has a numeric keypad.

b. Make sure the numeric keypad is enabled by pressing the [Num Lock] key. The Num Lock's led light will turn on indicating that the numeric keypad is enabled.

c. Place your screen cursor on the location where you want to insert the special character.

d. Press and hold down the [Alt] key on the left side of the keyboard.

e. On the numeric keypad, type the sequence of numbers (table shown below) that corresponds to the character you want to insert.

f. Release the [Alt] key and the special character will appear at your cursor's location.

The ALT code for the Greek capital letter omega Ω is 234 on the Windows ALT Code Symbols page. Press and hold the `Alt` key, type `@2` `#3` `$4` on the numeric keypad, then release the `Alt` key.

The ALT code for the Latin small letter ê with circumflex ê is 0234 on the Windows ALT Code Symbols page. Press and hold the `Alt` key, type `)0` `@2` `#3` `$4` on the numeric keypad, then release the `Alt` key.

✏️ **The leading zero makes all the difference!**

`Alt` + <###>, where ### is the decimal code point value of a character, generates an OEM-encoded character {IBM Code Page 437 / MS-DOS}.

`Alt` + <0###>, where ### is the decimal code point value of a character, generates a Windows-encoded character {Code Page 1252 Windows Latin 1 ANSI}.

Without Numeric Keypad

a. On a laptop keyboard, a set of keys have a secondary function, that when enabled, makes them act as a numeric keypad.

b. Locate the Function or `Fn` key on the bottom left of the keyboard.

c. Locate the Num Lock or Num Lk key on the top right of the keyboard.

d. Press and hold the `Fn` key, press and release the `Num Lock` key, release the `Fn` key. The laptop's numeric keypad is now enabled.

e. Place your screen cursor on the location where you want to insert the special character.

f. Press and hold down the `Alt` key on the left side of the keyboard.

g. On the numeric keypad, type the sequence of numbers (decimal code point value) that corresponds to the character you want to insert.

h. Release the `Alt` key.

i. The special character will appear at your cursor's location.

j. Repeat step 3 to disable the numeric keypad.

✏️ **On some laptops, simply pressing Fn and ALT at the same time, then typing the sequence of numbers (decimal code point value) on the numeric keypad will work.**

Alt Code Tables

Punctuation Signs

Char	Sequence	Description	Char	Sequence	Description
¡	173	Inverted exclamation mark	‚	0130	Single low-9 quotation mark
¦	0166	Broken bar, parted rule	"	0147	Left double quotation mark
§	21	Section sign	"	0148	Right double quotation mark
«	174	Left-pointing double angle quotation mark	„	0132	Double low-9 quotation mark
»	175	Right-pointing double angle quotation mark	†	0134	Dagger, obelisk, cross
°	248	Degree sign	‡	0135	Double dagger, double obelisk, diesis
¶	20	Pilcrow sign, paragraph sign	▪	7	Bullet
·	250	Middle dot, midpoint	…	0133	Horizontal ellipsis, three dot leader
¿	168	Inverted question mark	‰	0137	Per mille sign, per thousand
–	0150	En dash	‹	0139	Single left-pointing angle quotation mark
—	0151	Em dash	›	0155	Single right-pointing angle quotation mark
'	0145	Left single quotation mark	‼	19	Double exclamation mark
'	0146	Right single quotation mark	á	160	Latin small letter a with acute

Latin Letters with Diacritical Marks (Accents)

Char	Sequence	Description	Char	Sequence	Description
Á	0193	Latin capital letter A with acute	Ñ	165	Latin capital letter N with tilde
à	133	Latin small letter a with grave	ó	162	Latin small letter o with acute
À	0192	Latin capital letter A with grave	Ó	0211	Latin capital letter O with acute
â	131	Latin small letter a with circumflex	ò	149	Latin small letter o with grave
Â	0194	Latin capital letter A with circumflex	Ò	0210	Latin capital letter O with grave
ä	132	Latin small letter a with diaeresis	ô	147	Latin small letter o with circumflex
Ä	142	Latin capital letter A with diaeresis	Ô	0212	Latin capital letter O with circumflex
ã	0227	Latin small letter a with tilde	ö	148	Latin small letter o with diaeresis
Ã	0195	Latin capital letter A with tilde	Ö	153	Latin capital letter O with diaeresis
å	134	Latin small letter a with ring above	õ	0245	Latin small letter o with tilde
Å	143	Latin capital letter A with ring above	Õ	0213	Latin capital letter O with tilde
æ	145	Latin small letter ae	ø	248	Latin small letter o with stroke
Æ	146	Latin capital letter AE	Ø	0216	Latin capital letter O with stroke
ç	135	Latin small letter c with cedilla	œ	0156	Latin small ligature oe
Ç	128	Latin capital letter C with cedilla	Œ	0140	Latin capital ligature OE

Char	Sequence	Description	Char	Sequence	Description
ð	0240	Latin small letter eth	š	0154	Latin small letter s with caron
Đ	0208	Latin capital letter ETH	Š	0138	Latin capital letter S with caron
é	130	Latin small letter e with acute	ß	225	Latin small letter sharp s
É	144	Latin capital letter E with acute	þ	0254	Latin small letter thorn
è	138	Latin small letter e with grave	Þ	0222	Latin capital letter THORN
È	0200	Latin capital letter E with grave	ú	163	Latin small letter u with acute
ê	136	Latin small letter e with circumflex	Ú	0218	Latin capital letter U with acute
Ê	0202	Latin capital letter E with circumflex	ù	151	Latin small letter u with grave
ë	137	Latin small letter e with diaeresis	Ù	0217	Latin capital letter U with grave
Ë	0203	Latin capital letter E with diaeresis	û	150	Latin small letter u with circumflex
ƒ	159	Florin sign, function sign	Û	0219	Latin capital letter U with circumflex
í	161	Latin small letter i with acute	ü	129	Latin small letter u with diaeresis
Í	0205	Latin capital letter I with acute	Ü	154	Latin capital letter U with diaeresis
ì	141	Latin small letter i with grave	ý	0253	Latin small letter y with acute
Ì	0204	Latin capital letter I with grave	Ý	0221	Latin capital letter Y with acute
î	140	Latin small letter i with circumflex	ÿ	152	Latin small letter y with diaeresis
Î	0206	Latin capital letter I with circumflex	Ÿ	0159	Latin capital letter Y with diaeresis
ï	139	Latin small letter i with diaeresis	ž	0158	Latin small letter z with caron
Ï	0207	Latin capital letter I with diaeresis	Ž	0142	Latin capital letter Z with caron
ñ	164	Latin small letter n with tilde			

Diacritical / Accent Marks

Char	Sequence	Description	Char	Sequence	Description
^	94	Circumflex accent	´	0180	Acute accent
`	96	Grave accent	¸	0184	Cedilla
¨	0168	Diaeresis	ˆ	0136	Modifier Letter Circumflex Accent
¯	0175	Macron, overline, overbar	˜	0152	Small tilde

Greek Letters

Char	Sequence	Description	Char	Sequence	Description
µ	230	Micro sign, mu	α	224	Greek small letter alpha
Γ	226	Greek capital letter gamma	δ	235	Greek small letter delta
Θ	233	Greek capital letter theta	ε	238	Greek small letter epsilon
Σ	228	Greek capital letter sigma	π	227	Greek small letter pi
Τ	231	Greek capital letter tau	σ	229	Greek small letter sigma
Φ	232	Greek capital letter phi	φ	237	Greek small letter phi

Char	Sequence	Description			
Ω	234	Greek capital letter omega			

Intellectual Property

Char	Sequence	Description	Char	Sequence	Description
™	0153	Trade mark sign	®	0174	Registered sign
©	0169	Copyright sign			

Currency Symbols

Char	Sequence	Description	Char	Sequence	Description
$	36	Dollar sign	¥	157	Yen sign, yuan sign
€	0128	Euro sign	₧	158	Peseta sign
¢	155	Cent sign	¤	0164	Currency sign
£	156	Pound sign, pound sterling, Irish punt			

Superscripts

Char	Sequence	Description	Char	Sequence	Description
ª	166	Feminine ordinal indicator	²	253	Superscript two, squared
º	167	Masculine ordinal indicator	³	0179	Superscript three, cubed
¹	0185	Superscript one	ⁿ	252	Superscript Latin small letter n

Fractions

Char	Sequence	Description	Char	Sequence	Description
¼	172	Vulgar fraction one quarter	¾	0190	Vulgar fraction three quarters
½	171	Vulgar fraction one half			

Gender & Astrological Symbols

Char	Sequence	Description	Char	Sequence	Description
♀	12	Female sign, alchemical symbol for copper	♂	11	Male sign, alchemical symbol for iron

Emoticon / Emoji Symbols

Char	Sequence	Description	Char	Sequence	Description
☺	1	White smiling face, smiley face	☻	2	Black smiling face

Musical Symbols

Char	Sequence	Description	Char	Sequence	Description
♪	13	Eighth note, quaver	♫	14	Beamed eighth notes/quavers

Math Symbols

Char	Sequence	Description	Char	Sequence	Description
∟	28	Right angle	∩	239	Intersection
+	43	Plus sign	≡	240	Identical to
<	60	Less-than sign	±	241	Plus-minus sign

Char	Sequence	Description	Char	Sequence	Description
=	61	Equals sign	≥	242	Greater-than or equal to
>	62	Greater-than sign	≤	243	Less-than or equal to
|	124	Vertical line, vertical bar	⌠	244	Top half integral
~	126	Tilde	⌡	245	Bottom half integral
⌐	169	Reversed not sign, beginning of line	÷	246	Division sign, obelus
¬	170	Not sign, angled dash	≈	247	Almost equal to, asymptotic to
×	0215	Multiplication sign	▪	249	Bullet operator
∞	236	Infinity	√	251	Square root, radical sign

Box Drawings

Char	Sequence	Description	Char	Sequence	Description
─	196	Box drawings light horizontal	═	205	Box drawings double horizontal
│	179	Box drawings light vertical	║	186	Box drawings double vertical
┌	218	Box drawings light down and right	╒	213	Box drawings down single and right double
┐	191	Box drawings light down and left	╓	214	Box drawings down double and right single
└	192	Box drawings light up and right	╔	201	Box drawings double down and right
┘	217	Box drawings light up and left	╕	184	Box drawings down single and left double
├	195	Box drawings light vertical and right	╖	183	Box drawings down double and left single
┤	180	Box drawings light vertical and left	╗	187	Box drawings double down and left
┬	194	Box drawings light down and horizontal	╘	212	Box drawings up single and right double
┴	193	Box drawings light up and horizontal	╙	211	Box drawings up double and right single
┼	197	Box drawings light vertical and horizontal	╚	200	Box drawings double up and right
╛	190	Box drawings up single and left double	╤	209	Down single and horizontal double
╜	189	Box drawings up double and left single	╥	210	Down double and horizontal single
╝	188	Box drawings double up and left	╦	203	Box drawings double down and horizontal
╞	198	Box drawings vertical single and right double	╧	207	Up single and horizontal double
╟	199	Box drawings vertical double and right single	╨	208	Up double and horizontal single
╠	204	Box drawings double vertical and right	╩	202	Double up and horizontal
╡	181	Box drawings vertical single and left double	╪	216	Vertical single and horizontal double
╢	182	Box drawings vertical double and left single	╫	215	Vertical double and horizontal single
╣	185	Box drawings double vertical and left	╬	206	Double vertical and horizontal

Block Elements

Char	Sequence	Description	Char	Sequence	Description
░	176	Light shade	▄	220	Lower half block
▒	177	Medium shade, speckles fill, dotted fill	▌	221	Left half block

Char	Sequence	Description	Char	Sequence	Description
▓	178	Dark shade	▌	222	Right half block
■	219	Full block, solid block	▬	223	Upper half block

Geometric Shapes

Char	Sequence	Description	Char	Sequence	Description
◘	8	Inverse bullet	▬	22	Black rectangle
○	9	White circle	▲	30	Black up-pointing triangle
◙	10	Inverse white circle	▼	31	Black down-pointing triangle
▶	16	Black right-pointing pointer	■	254	Black square
◀	17	Black left-pointing pointer			

Arrows

Char	Sequence	Description	Char	Sequence	Description
↕	18	Up down arrow	→	26	Rightwards arrow, Z notation total function
↨	23	Up down arrow with base	←	27	Leftwards arrow
↑	24	Upwards arrow	↔	29	Left right arrow, Z notation relation
↓	25	Downwards arrow			

Playing Cards

Char	Sequence	Description	Char	Sequence	Description
♥	3	Black heart suit	♣	5	Black club suit
♦	4	Black diamond suit	♠	6	Black spade suit

Miscellaneous

Char	Sequence	Description	Char	Sequence	Description
☀	15	White sun with rays	⌂	127	House
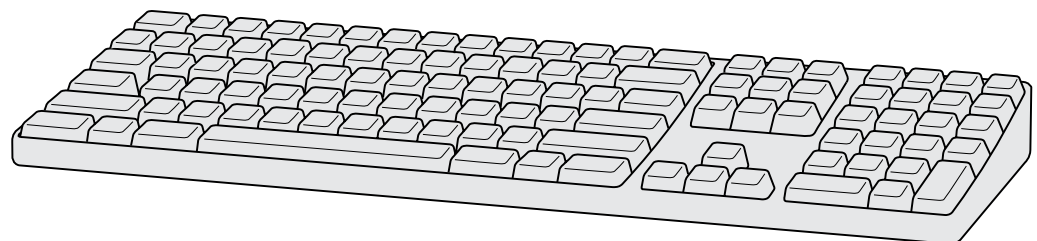
5 ASCII Character Set

American Standard Code Characters

The following tables represent only characters 32-127 which are the standard, implementation-independent alphanumeric characters that are most commonly used.

ASCII	Char.	Full description	ASCII	Char.	Full description
032		Empty Space	057	9	Number nine
033	!	Exclamation mark	058	:	Colon
034	"	Quotation mark; quotes	059	;	Semicolon
035	#	Number sign	060	<	Less-than sign
036	$	Dollar sign	061	=	Equals sign
037	%	Percent sign	062	>	Greater-than sign
038	&	Ampersand	063	?	Question mark
039	'	Apostrophe	064	@	AT sign
040	(	Round brackets or parentheses	065	A	Capital A
041	)	Round brackets or parentheses	066	B	Capital B
042	*	Asterisk	067	C	Capital C
043	+	Plus sign	068	D	Capital D
044	,	Comma	069	E	Capital E
045	—	Hyphen	070	F	Capital F
046	.	Dot, full stop	071	G	Capital G
047	/	Slash	072	H	Capital H
048	0	Number zero	073	I	Capital I
049	1	Number one	074	J	Capital J
050	2	Number two	075	K	Capital K
051	3	Number three	076	L	Capital L
052	4	Number four	077	M	Capital M
053	5	Number five	078	N	Capital N
054	6	Number six	079	O	Capital O
055	7	Number seven	080	P	Capital P
056	8	Number eight	081	Q	Capital Q

082	R	Capital R	116	t	Lowercase t
083	S	Capital S	117	u	Lowercase u
084	T	Capital T	118	v	Lowercase v
085	U	Capital U	119	w	Lowercase w
086	V	Capital V	120	x	Lowercase
087	W	Capital W	121	y	Lowercase y
088	X	Capital X	122	z	Lowercase z
089	Y	Capital Y	123	{	Curly brackets or braces
090	Z	Capital Z	124	|	Vertical-bar, VBAR, vertical line
091	[	Square brackets	125	}	Curly brackets or braces
092	\	Backslash	126	~	Tilde; swung dash
093	]	Square brackets	127		Delete
094	^	Caret or circumflex accent	128	Ç	Majuscule C-cedilla
095	_	Underscore	129	ü	Letter "u" with umlaut or diareses
096	`	Grave accent	130	é	Letter "e" with acute or "e-acute"
097	a	Lowercase a	131	â	a-circumflex
098	b	Lowercase b	132	ä	Letter "a" with umlaut or diareses
099	c	Lowercase c	133	à	Letter "a" with grave accent
100	d	Lowercase d	134	å	Letter "a" with a ring
101	e	Lowercase e	135	ç	Minuscule c-cedilla
102	f	Lowercase f	136	ê	e-circumflex
103	g	Lowercase g	137	ë	Letter "e" with umlaut or diareses
104	h	Lowercase h	138	è	Letter "e" with grave accent
105	i	Lowercase i	139	ï	Letter "i" with umlaut or diareses
106	j	Lowercase j	140	î	i-circumflex
107	k	Lowercase k	141	ì	Letter "i" with grave accent
108	l	Lowercase l	142	Ä	Letter "A" with umlaut or diareses
109	m	Lowercase m	143	Å	Capital letter "A" with a ring
110	n	Lowercase n	144	É	Capital letter "E" with acute accent
111	o	Lowercase o	145	æ	Latin diphthong "ae" in lowercase
112	p	Lowercase p	146	Æ	Latin diphthong "AE" in uppercase
113	q	Lowercase q	147	ô	o-circumflex
114	r	Lowercase r	148	ö	Letter "o" with umlaut or diareses
115	s	Lowercase s	149	ò	Letter "o" with grave accent

150	û	u-circumflex	184	©	Copyright symbol
151	ù	Letter "u" with grave accent	185	╢	Box drawing character
152	ÿ	Lowercase letter "y" with diareses	186	║	Box drawing character
153	Ö	Letter "O" with umlaut or diareses	187	╗	Box drawing character
154	Ü	Letter "U" with umlaut or diareses	188	╝	Box drawing character
155	ø	Slashed zero or empty set	189	¢	Cent symbol
156	£	Symbol for the pound sterling	190	¥	YEN and YUAN sign
157	Ø	Slashed zero or empty set	191	┐	Box drawing character
158	×	Multiplication sign	192	└	Box drawing character
159	ƒ	Function sign; florin sign	193	┴	Box drawing character
160	á	Letter "a" with acute accent	194	┬	Box drawing character
161	í	Letter "i" with acute accent	195	├	Box drawing character
162	ó	Letter "o" with acute accent	196	─	Box drawing character
163	ú	Letter "u" with acute accent	197	┼	Box drawing character
164	ñ	Letter "n" with tilde; enye	198	ã	Lowercase letter "a" with tilde
165	Ñ	Letter "N" with tilde; enye	199	Ã	Capital letter "A" with tilde
166	ª	Feminine ordinal indicator	200	╚	Box drawing character
167	º	Masculine ordinal indicator	201	╔	Box drawing character
168	¿	Inverted question marks	202	╩	Box drawing character
169	®	Registered trademark symbol	203	╦	Box drawing character
170	¬	Logical negation symbol	204	╠	Box drawing character
171	½	One half	205	═	Box drawing character
172	¼	Quarter or one fourth	206	╬	Box drawing character
173	¡	Inverted exclamation marks	207	¤	Generic currency sign
174	«	Angle quotes or guillemets	208	ð	Lowercase letter "eth"
175	»	Guillemets or angle quotes	209	Ð	Capital letter "Eth"
176	░	Light Shade	210	Ê	E-circumflex
177	▒	Medium Shade	211	Ë	E-umlaut
178	▓	Dark Shade	212	È	Letter "E" with grave accent
179	│	Box drawing character	213	ı	Lowercase dot less i
180	┤	Box drawing character	214	Í	Capital letter "I" with acute accent
181	Á	Capital letter "A" with acute accent	215	Î	Letter "I" with circumflex accent
182	Â	A-circumflex	216	Ï	Letter "I" with umlaut or dieresis
183	À	Letter "A" with grave accent	217	┘	Box drawing character

218	⌐	Box drawing character	237	Ý	Capital letter "Y" with acute accent
219	■	Block	238	‾	Macron symbol
220	▬	Lower Half Block	239	´	Acute accent
221	¦	Vertical broken bar	240	—	Hyphen
222	Ì	Letter "I" with grave accent	241	±	Plus-minus sign
223	▬	Upper Half Block	242	_	Underline or underscore
224	Ó	Capital letter "O" with acute accent	243	¾	Three quarters
225	ß	Letter "Eszett"; "scharfes S" or "sharp S"	244	¶	Paragraph sign or pilcrow
226	Ô	O-circumflex	245	§	Section sign
227	Ò	Letter "O" with grave accent	246	÷	The division sign; Obelus
228	õ	Letter "o" with tilde or "o-tilde"	247	¸	Cedilla
229	Õ	Letter "O" with tilde or "O-tilde"	248	°	Degree symbol
230	µ	Lowercase letter "Mu"; micro sign	249	¨	Diaresis
231	þ	Lowercase letter "Thorn"	250	·	Interpunct or space dot
232	Þ	Capital letter "thorn"	251	¹	Superscript one
233	Ú	Capital letter "U" with acute accent	252	³	Cube or superscript three
234	Û	U-circumflex	253	²	Square or superscript two
235	Ù	Letter "U" with grave accent	254	■	Black square
236	ý	Lowercase letter "y" with acute accent	255		Space or no-break space

6 Apple II Personal Computer

AppleSoft MouseText

The following Applesoft basic program requires an actual Apple //c, Apple IIe Enhanced or an Apple IIGS Personal Computer System, this program can also be tested on a software based emulator such as AppleWin - MS Windows or Virtual II - Apple MacIntosh.

Basic Program

```
10 D$ = CHR$ (4): REM CONTROL-D
20 PRINT: PRINT D$; "PR#3" : REM TURN ON 80-COLUMN CARD
30 INVERSE
40 PRINT CHR$ (27);"@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_";:
   REM PRINT ALTERNATE CHARACTER SET
50 PRINT CHR$ (24);: REM TURN OFF THE ALTERNATE CHARACTER SET
60 NORMAL : REM TURN OFF INVERSE
```

Download Apple II Emulator

AppleWin - Copy and Paste Procedure

1. Select and copy the basic program code shown above and switch to AppleWin, the program needs to be running in Apple //e Enhanced mode.

2. Select **AppleWin Configuration.**

3. Select **Input** following by selecting the **Paste From Clipboard** button.

4. Select the **OK** button, the program code will fill the screen.

5. At the command prompt ⏎※ type RUN and press **Enter**, the display will change to 80 columns and display MouseText characters on screen.

Apple II MouseText Simulated Screens

The following Apple II Screens were created with Adobe InDesign using the Apple II Pro
OpenType font without the need of any graphic images.

```
       ░  ░░  File  ▐Edit▌░░░░░░░░░░░░░░░░░░░░░
       ┌─────────┐
       │ Open    │
       │ New     │  ┌──────Letter1─────┐
       │ Save    │  │ these fonts are more ▲
       │ Close   │  │ amazing than the new █
       │ Quit    │  │ Apple M1 chip.     █
       └─────────┘  │                    █
                    │ I left my heart in █
                    │ San Francisco!     █
                    │ Totally Awesome....█
                    │                    █
                    │        Thanks again, █
                    │                    █
                    │       Meister Cooke ▼
                    └────────────────────┘
```

```
  DEMOPROGRAM                          v. 2.00
  ─────────────────────────────────────────────
  ░ ?   for Help

  ↑  ↓  ←  →   to Select
  ─────────────────────────────────────────────




            ▭      Editing Menu

       ✓  ▭      HOUSEKEEPING MENU

            ▭      Printing Menu




  ✓ indicates current selection
```
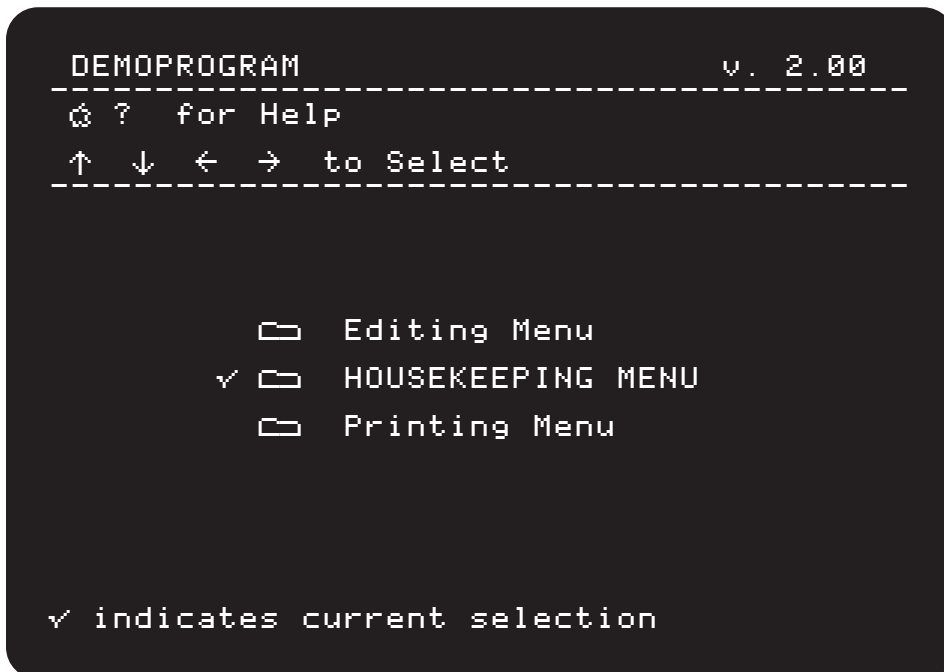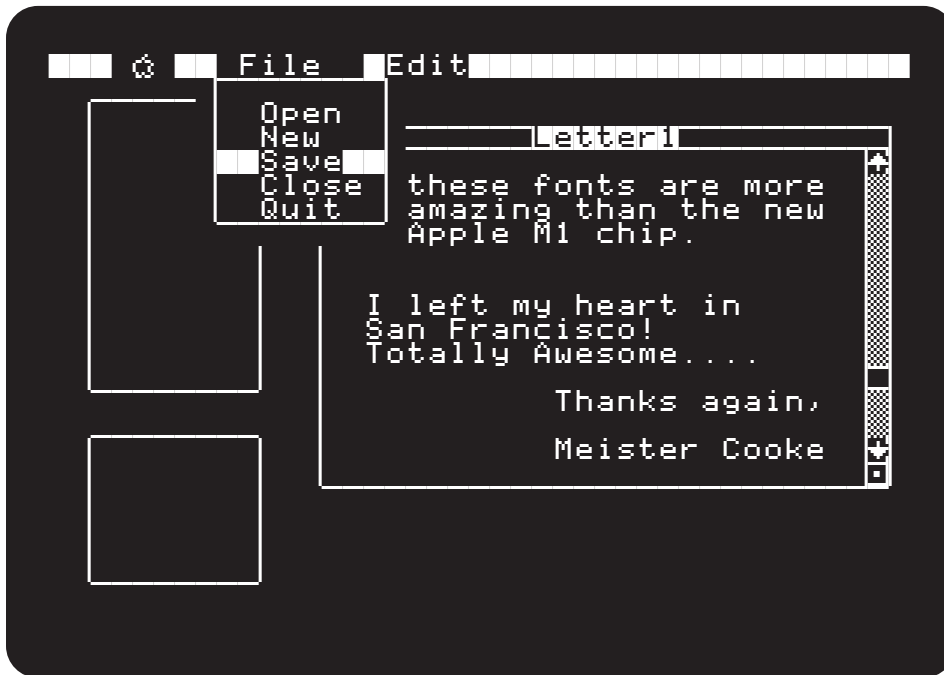
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