

PostScript Language

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PostScript Language

- Adobe사에서 개발한 페이지 서술 언어
- 2차원 정적 그래픽스 라이브러리
- 주로 레이저 프린터 출력용으로 많이 사용
- 스택기반의 언어
- “2 3 +”과 같은 형태의 *Postfix* 문법을 사용

PostScript 관련 사이트

- BLUE BOOK을 얻는 사이트

<http://www-cdf.fnal.gov/offline/PostScript/BLUEBOOK.PDF>

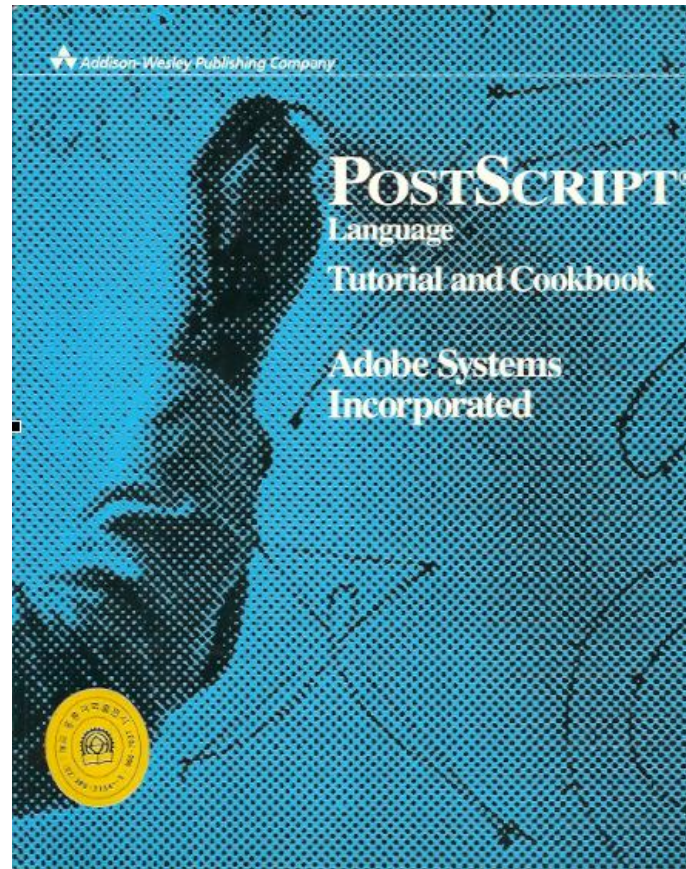
- BLUE BOOK의 예제들을 얻는 사이트

<http://www.science.uva.nl/~robbert/ps/bluebook/>

- AFPL Ghostscript와 GSview를 얻는 사이트

<http://www.cs.wisc.edu/~ghost>

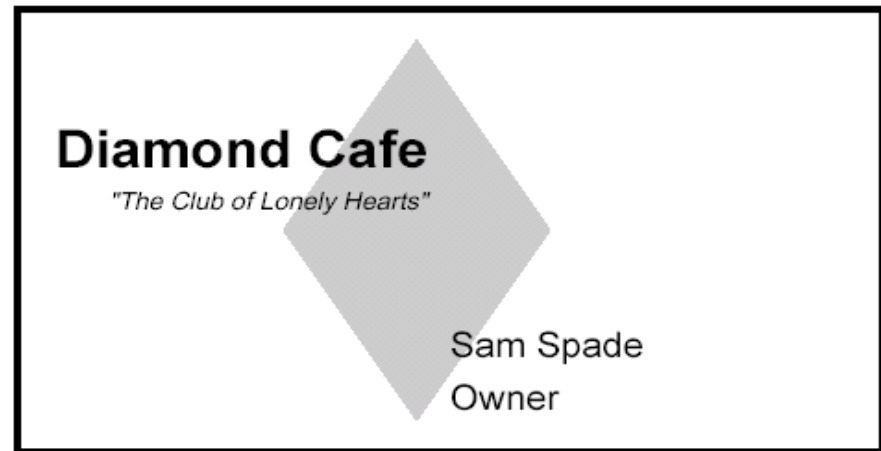
BLUE BOOK



PostScript 예제



Overlapping Boxes



PostScript 프로그램 예제



```
/Times-Italic findfont 30 scalefont setfont
```

```
/printZip
```

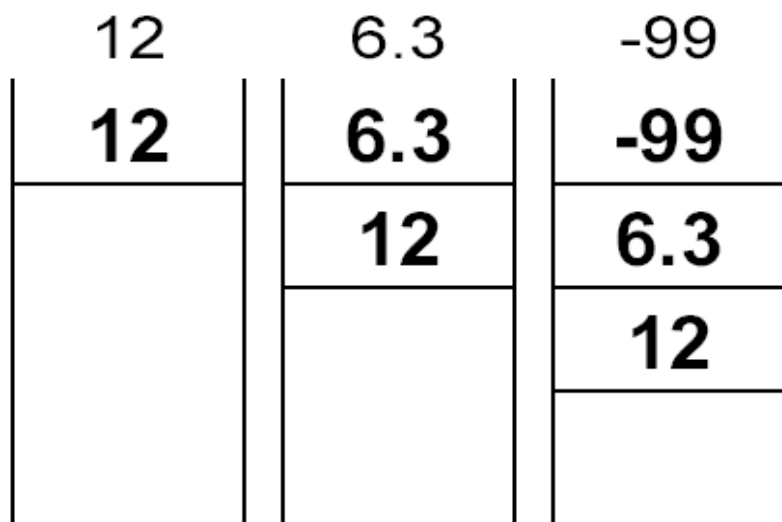
```
{ 0 0 moveto (Zip) show} def  
320 400 translate
```

```
.95 -.05 0 % start incr. end  
{setgray printZip -1 .5 translate } for
```

```
1 setgray printZip
```

```
showpage
```

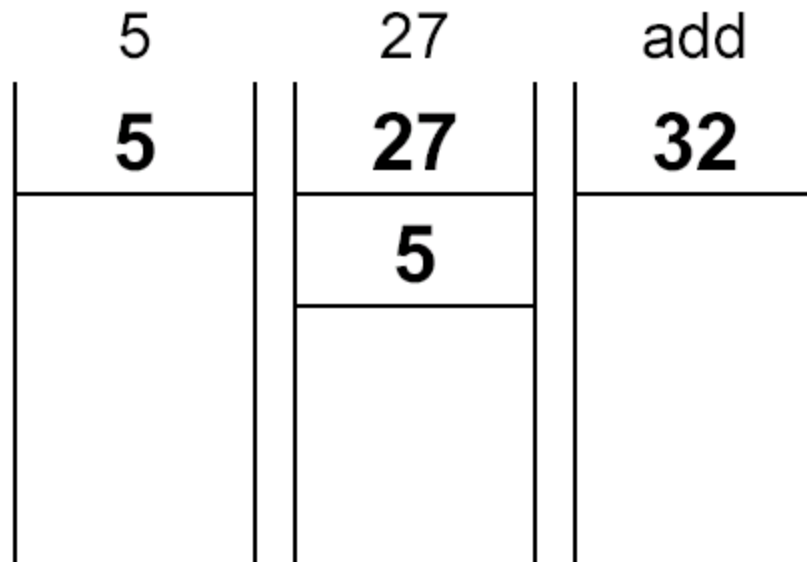
PostScript 스택



12 6.3 -99

POSTSCRIPT Stack

PostScript 연산



5 27 add

add

PostScript 연산

8.3	6.6	sub
8.3	6.6	1.7
	8.3	

8.3 6.6 sub

sub

PostScript 연산

13 8 **div** \Rightarrow 1.625

25 3 **idiv** \Rightarrow 8

12 10 **mod** \Rightarrow 2

-27 **neg** \Rightarrow 27

PostScript 연산

$$6 + (3 \div 8)$$

- 3 8 div 6 add
- 6 3 8 div add

PostScript 연산

- 3 8 div 6 add

3 8	div	6	add
8	.375	6	6.375
3		.375	

6+3/8, Example 1

PostScript 연산

- 6 3 8 div add

6 3 8	div	add
8	.375	6.375
3	6	
6		

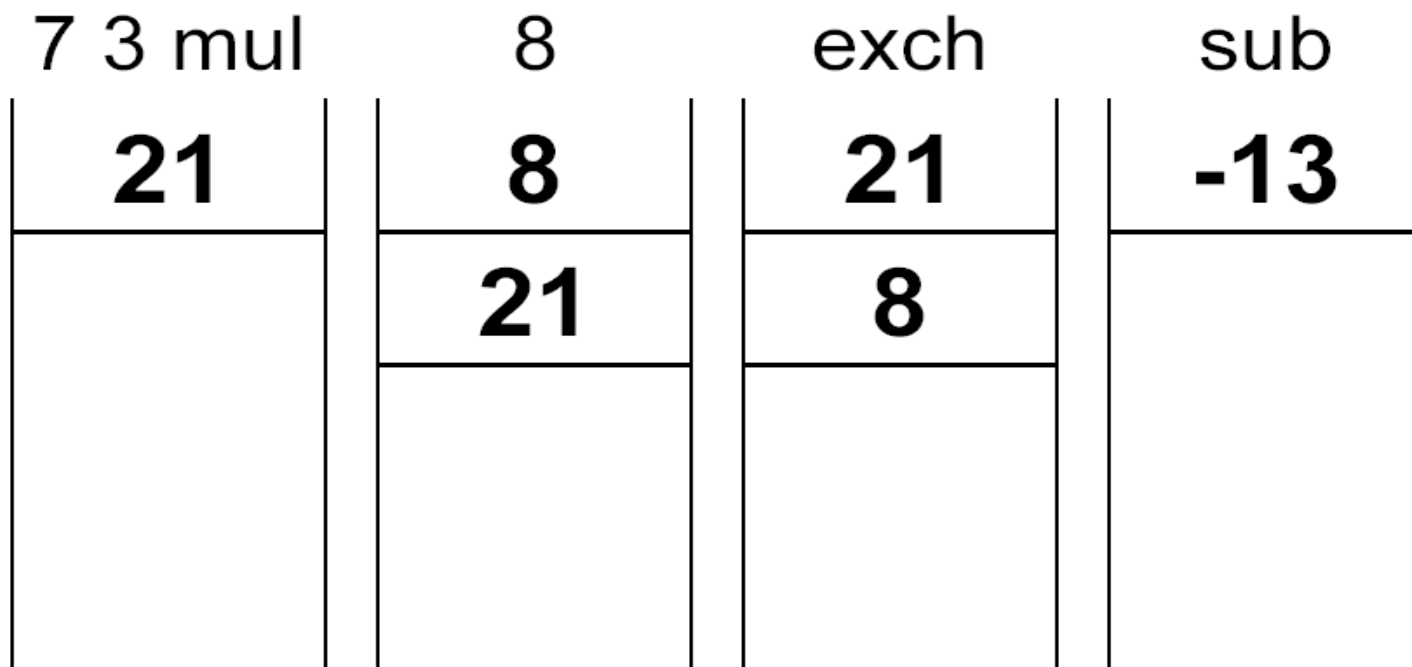
6+3/8, Example 2

PostScript 연산

$$8 - (7 \times 3)$$

- 8 7 3 mul sub
- 7 3 mul 8 exch sub

PostScript 연산



$$8-7*3$$

스택 처리

6 8 12 **clear** \Rightarrow —

6 **dup** \Rightarrow 6 6

17 8 **pop** \Rightarrow 17

7 8 9 3 1 **roll** \Rightarrow 9 7 8

7 8 9 3 -1 **roll** \Rightarrow 8 9 7

PostScript 그래픽스

newpath

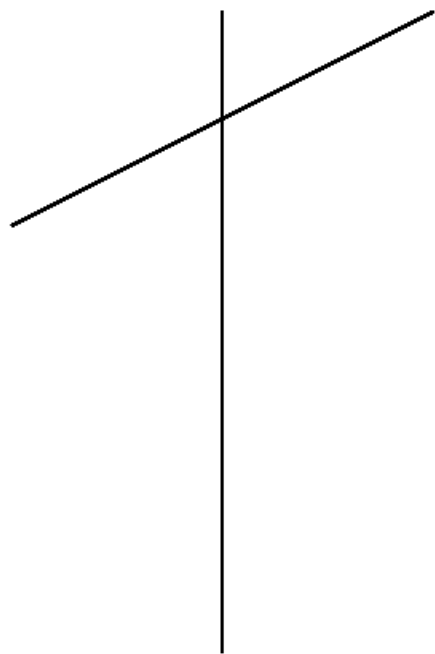
144 72 moveto

144 432 lineto

stroke

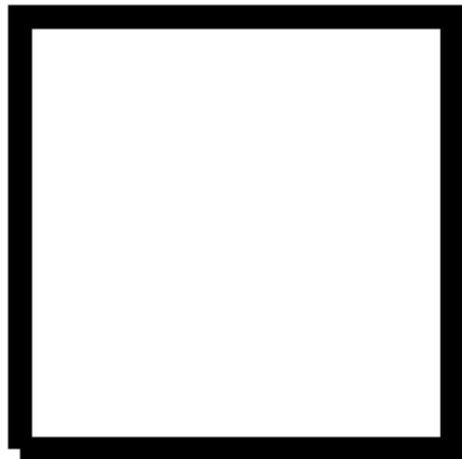
showpage

PostScript 그래픽스



```
newpath
72 360 moveto
144 72 rlineto
144 432 moveto
0 -216 rlineto
stroke
showpage
```

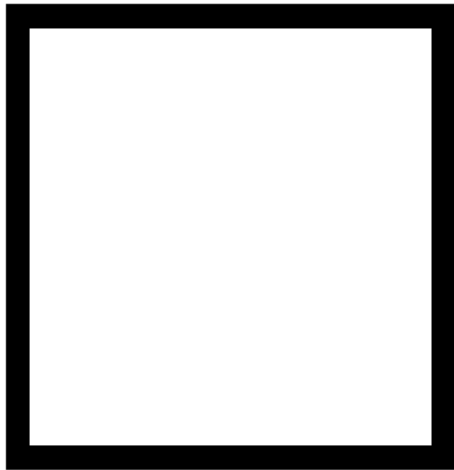
PostScript 그래픽스



A Box

```
newpath
 270 360 moveto
 0 72 rlineto
 72 0 rlineto
 0 -72 rlineto
-72 0 rlineto
 4 setlinewidth
stroke showpage
```

PostScript 그래픽스



A Better Box

```
newpath  
270 360 moveto  
0 72 rlineto  
72 0 rlineto  
0 -72 rlineto  
closepath  
4 setlinewidth  
stroke showpage
```

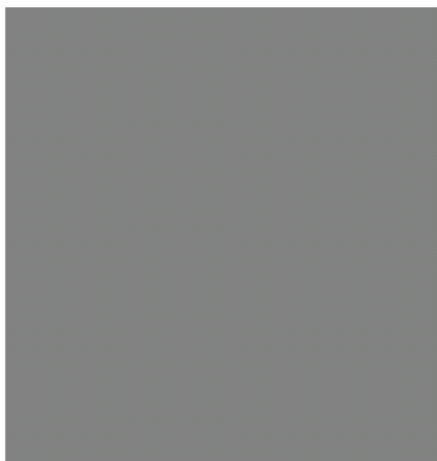
PostScript 그래픽스



A Filled Box

```
newpath  
270 360 moveto  
0 72 rlineto  
72 0 rlineto  
0 -72 rlineto  
closepath  
fill  
showpage
```

PostScript 그래픽스



A Gray Box

```
newpath
 270 360 moveto
 0 72 rlineto
 72 0 rlineto
 0 -72 rlineto
closepath
.5 setgray
fill

showpage
```

PostScript 그래픽스



Overlapping Boxes

```
newpath      %Begin black box
252 324 moveto
0 72 rlineto
72 0 rlineto
0 -72 rlineto
closepath
fill
```

```
newpath      %Begin gray box
270 360 moveto
0 72 rlineto
72 0 rlineto
0 -72 rlineto
closepath
.4 setgray
fill
```

```
newpath      %Begin lighter box
288 396 moveto
0 72 rlineto
72 0 rlineto
0 -72 rlineto
closepath
.8 setgray
```

```
fill
showpage     %Send to printer
```

PostScript 변수

10	ppi	mul
10	72	720
	10	

```
/ppi 72 def
```

```
10 ppi mul
```

Using a Variable

PostScript 변수

/ppi	ppi	1	add
ppi	100	1	101
	ppi	100	ppi
		ppi	

```
/ppi 100 def
```

```
/ppi ppi 1 add def
```

Incrementing a Variable

PostScript 프러시저

```
/inch {72 mul} def
```

```
5 inch
```

```
5 72 mul
```

PostScript 프러시저



Overlapping Boxes

```
% ----- Define box procedure ---  
/box  
{ 72 0 rlineto  
  0 72 rlineto  
 -72 0 rlineto  
  
  closepath } def  
% ----- Begin Program -----  
newpath          % First box  
252 324 moveto box  
0 setgray fill  
newpath          % Second box  
270 360 moveto box  
.4 setgray fill  
newpath          % Third box  
288 396 moveto box  
.8 setgray fill  
showpage
```

PostScript 프러시저



Overlapping Boxes

```
% ----- Define procedures-----  
/inch {72 mul} def  
  
/box          % stack: x y => ---  
{ newpath moveto  
  1 inch 0 rlineto  
  0 1 inch rlineto  
  -1 inch 0 rlineto  
  closepath } def  
/fillbox      % stack: grayvalue => ---  
{ setgray fill } def  
% ----- Main Program -----  
3.5 inch 4.5 inch box  
0 fillbox  
3.75 inch 5 inch box  
.4 fillbox  
4 inch 5.5 inch box  
.8 fillbox  
showpage
```