

Relationship Between BWT and Suffix Arrays

$s = \text{appellee\$}$
 123456789

\$	a	p	p	e	e	e	e	
a	p	p	e	e	e	e		\$
e	\$	a	p	p	e	e	e	
e	e	\$	a	p	p	e	e	
e	e	e	\$	a	p	p	e	
e	e	e	e	\$	a	p	p	e
e	e	e	e	e	\$	a	p	p
e	e	e	e	e	e	\$	a	p
e	e	e	e	e	e	e	\$	a

BWT matrix

\$
appellee\$
e\$
ee\$
ellee\$
lee\$
llee\$
pellee\$
ppellee\$

The suffixes are obtained by deleting everything after the \$

These are still in sorted order because "\$" comes before everything else

9
1
8
7
4
6
5
3
2

Suffix array (start position for the suffixes)

— subtract 1 →

$s[9-1]$	=	e
$s[1-1]$	=	\$
$s[8-1]$	=	e
$s[7-1]$	=	l
$s[4-1]$	=	p
$s[6-1]$	=	l
$s[5-1]$	=	e
$s[3-1]$	=	p
$s[2-1]$	=	a

Suffix position - 1 = the position of the last character of the BWT matrix

(\$ is a special case)