FM-Index for pattern matching with BWT

1. The table below shows the BWT for $S = barbara\$$. Compete the columns to create the FM-Index, which consists of:

   (a) The BWT of S, i.e. the L column of π^{sorted}(S)

   (b) $M[c]$, the first index of c in F (note that F is actually not part of the FM-Index)

   (c) occ(c, i), the number of times c occurs in $L[1 \cdots i]$, inclusive

i	F	L	occ($\$$)	occ(a)	occ(b)	occ(r)
1		a				
2		r				
3		b				
4		b				
5		r				
6		$\$$				
7		a				
8		a				

c	$M[c]$
$\$$	
a	
b	
r	

   Extra practice: compute BW(S) for this string and check your answer with the table above. Then reverse the BWT and make sure you can obtain the original string.

2. Use the FM-Index above to find the start indices of the pattern $P = ba$ in the original string.