

Exam 1 Fall 2015 Prob. 3

l	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10
$4r_{x,x}[l-3]$				-4	0	12	0	-4						
$r_{x,x}[l-4]$					-1	0	3	0	-1					
$4r_{x_1x_2}[l-3]$			4	0	4	0	20	0	4	0	4			
$r_{x_1x_2}[l-4]$				1	0	1	0	5	0	1	0	1		
	$\{4, 1, 0, 0, 32, 8, 0, 0, 4, 1\}$													
	$\uparrow$ $l=0$													

$$r_{x,x}[n] = \{-1, 0, \underset{\uparrow}{3}, 0, -1\} \quad \text{For length-3 Barker Code}$$

$$r_{x_1 x_2}[n] = \{1, 0, 1, 0, 5, 0, 1, 0, 1\} \text{ for length-5 Barker code}$$

Exam 1 Fall 2018 Prob. 2

	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
$2r \begin{matrix} [R-3] \\ x_1, x_1 \end{matrix}$					2	0	2	0	10	0	2	0	2						
$-r \begin{matrix} [R-4] \\ x_1, x_1 \end{matrix}$					-1	0	-1	0	-5	0	-1	0	-1						
$2r \begin{matrix} [R-3] \\ x_2, x_2 \end{matrix}$			-2	0	-2	0	-2	0	14	0	-2	0	-2	0	-2				
$-r \begin{matrix} [R-4] \\ x_1, x_2 \end{matrix}$					0	1	0	1	0	-7	0	1	0	1	0	1			
	-2	0	0	0	0	0	0	24	-12	0	0	0	0	-2	1				

↑
 $k=0$

$r_{x,x}[n] = \{1, 0, 1, 0, 5, 0, 1, 0, 1\}$ length-5 Barker code

$$r_{x_2 x_2}[n] = \{-1, 0, -1, 0, -1, 0, 1, 0, -1, 0, -1\}$$

length-7 Barker Code