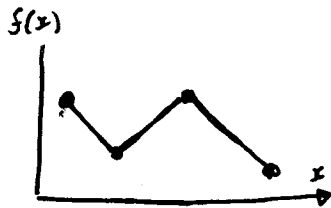


MAR.28/19

**EXAMPLE**

Fit the data in the table with first order splines. Evaluate function @  $x=5$ .

$i$	$x_i$	$f_i$
1	3.0	2.5
2	4.5	1.0
3	7.0	2.5
4	9.0	0.6



$$S_2(x_2) = a_1 + b_1(x_2 - x_1)$$

$$f_{i+1} = f_i + b_i(x_{i+1} - x_i)$$

$$b_i = \frac{f_{i+1} - f_i}{x_{i+1} - x_i}$$

$$S_i = f_i + \frac{f_{i+1} - f_i}{x_{i+1} - x_i} (x - x_i)$$

$$S_2 = 1 + \frac{2.5 - 1}{7.5 - 4.5} (x - 4.5)$$

$$S_2(6) = 1.3$$

	$i$	
$S_1$	( 1	
$S_2$	( 2	$x=5$
	( 3	
$S_3$	( 4	