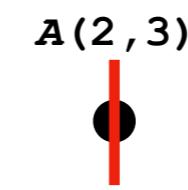
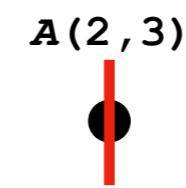
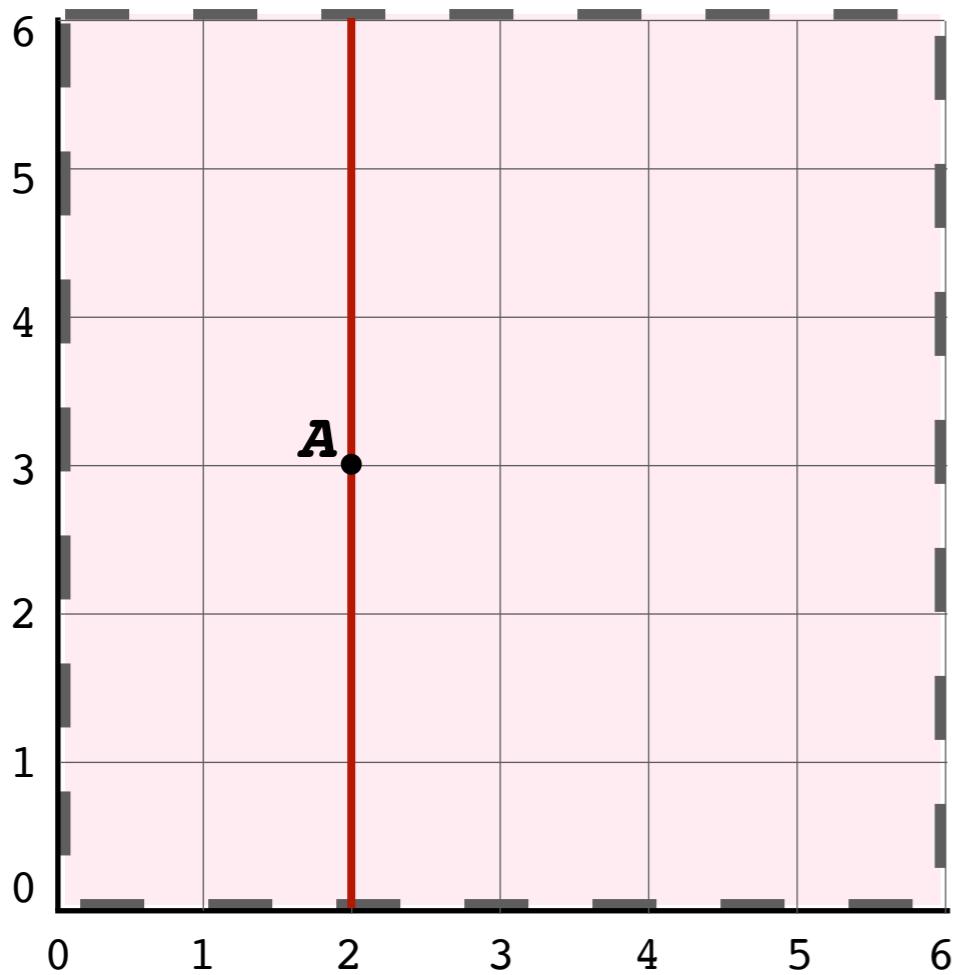


Bounding Boxes

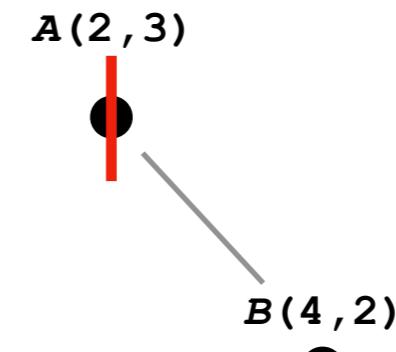
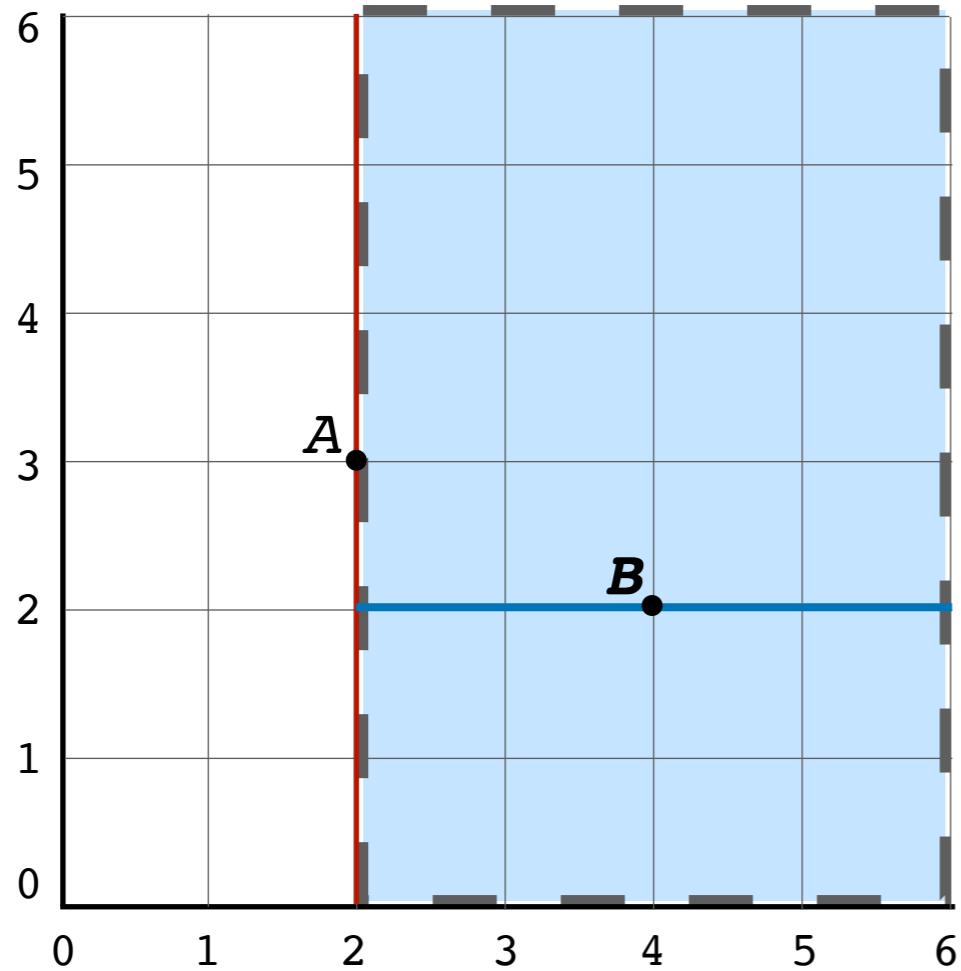




## Bounding Boxes

<b><math>A(2, 3)</math></b>	$[(-\infty, -\infty), (+\infty, +\infty)]$
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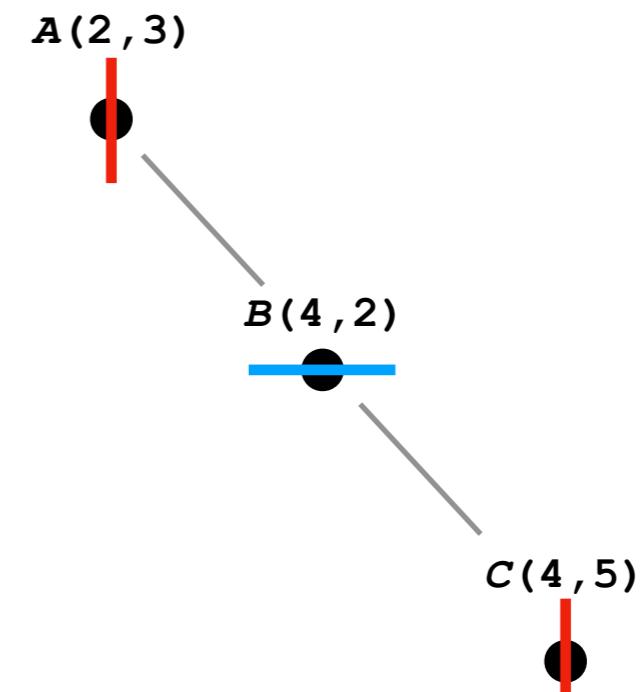
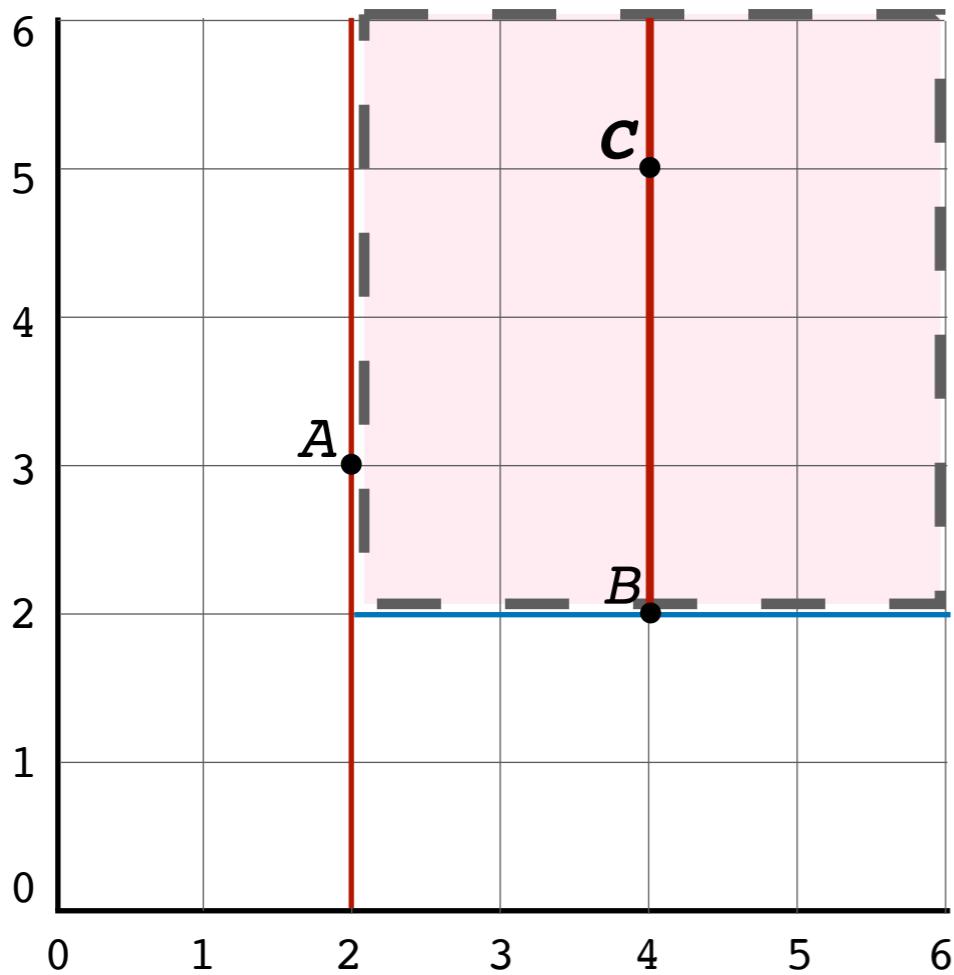
$[(x_{\min}, y_{\min}), (x_{\max}, y_{\max})]$



Bounding Boxes    [( $x_{\min}$ ,  $y_{\min}$ ), ( $x_{\max}$ ,  $y_{\max}$ )]

<b>A(2, 3)</b>	<span style="color:red">[(-∞, -∞), (+∞, +∞)]</span>
<b>B(4, 2)</b>	<span style="color:red">[(2, -∞), (+∞, +∞)]</span>

**Only x min value changed from A to right child (B)**

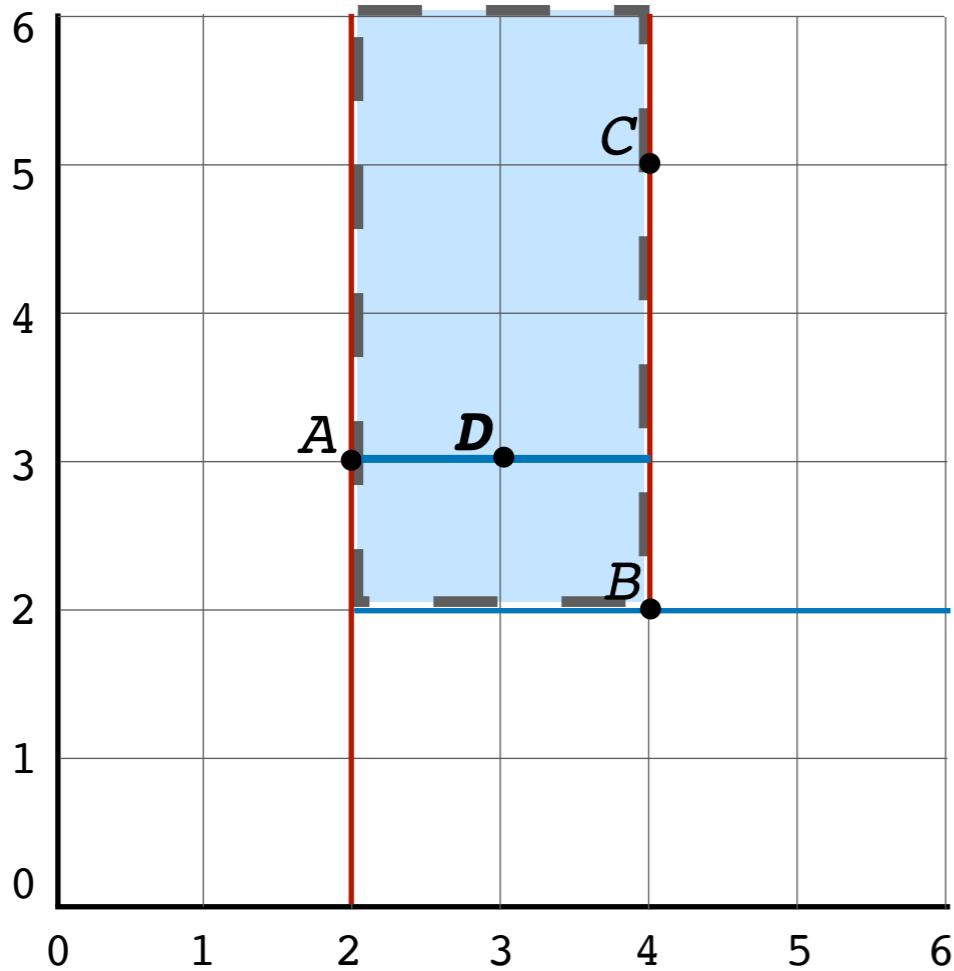


Bounding Boxes  $[(x_{\min}, y_{\min}), (x_{\max}, y_{\max})]$

$A(2, 3)$	$[(-\infty, -\infty), (+\infty, +\infty)]$
$B(4, 2)$	$[(2, -\infty), (+\infty, +\infty)]$
$C(4, 5)$	$[(2, 2), (+\infty, +\infty)]$

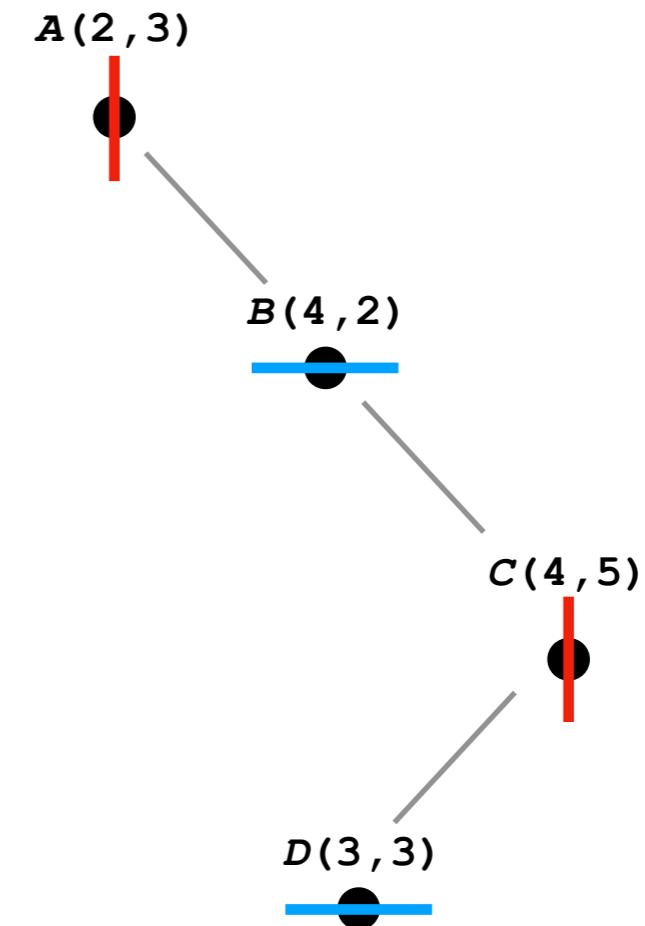
From B to right child, what changed?

y min only



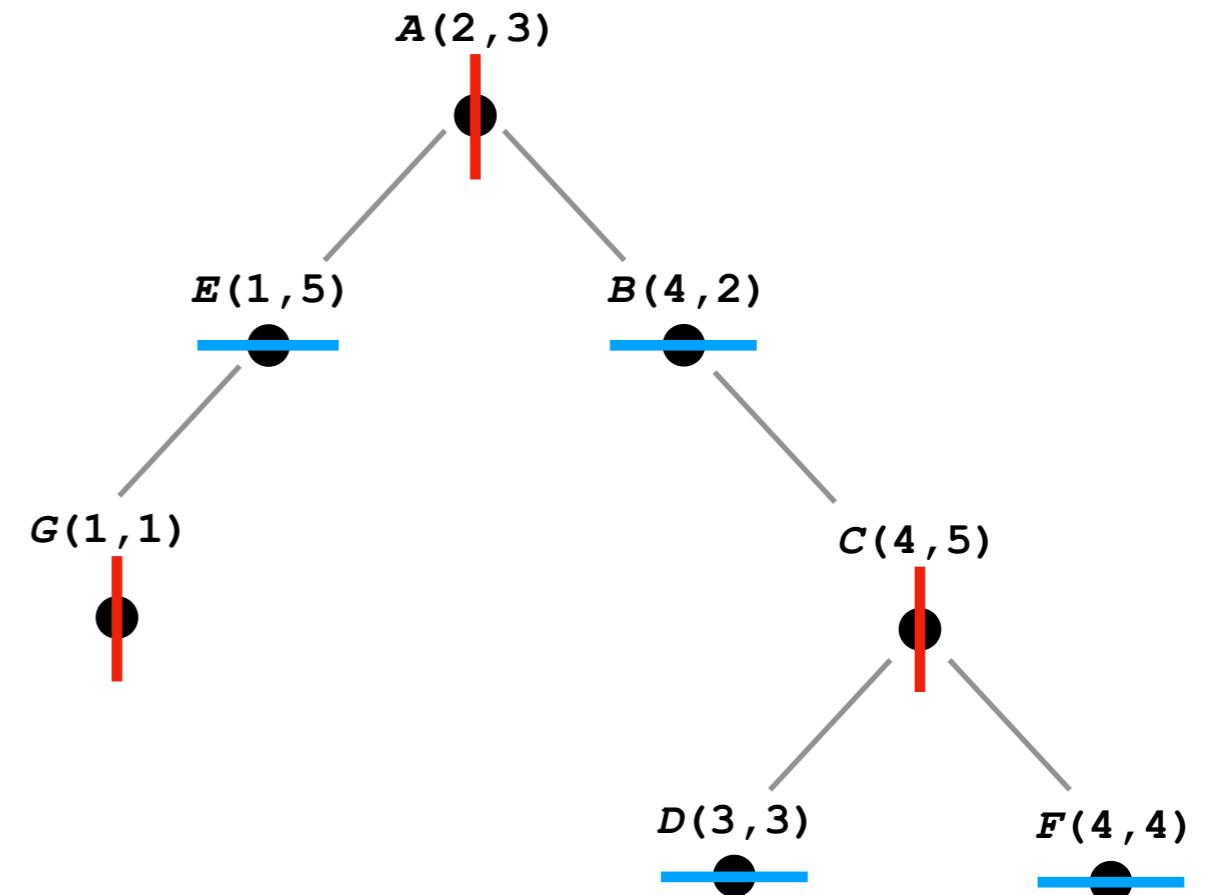
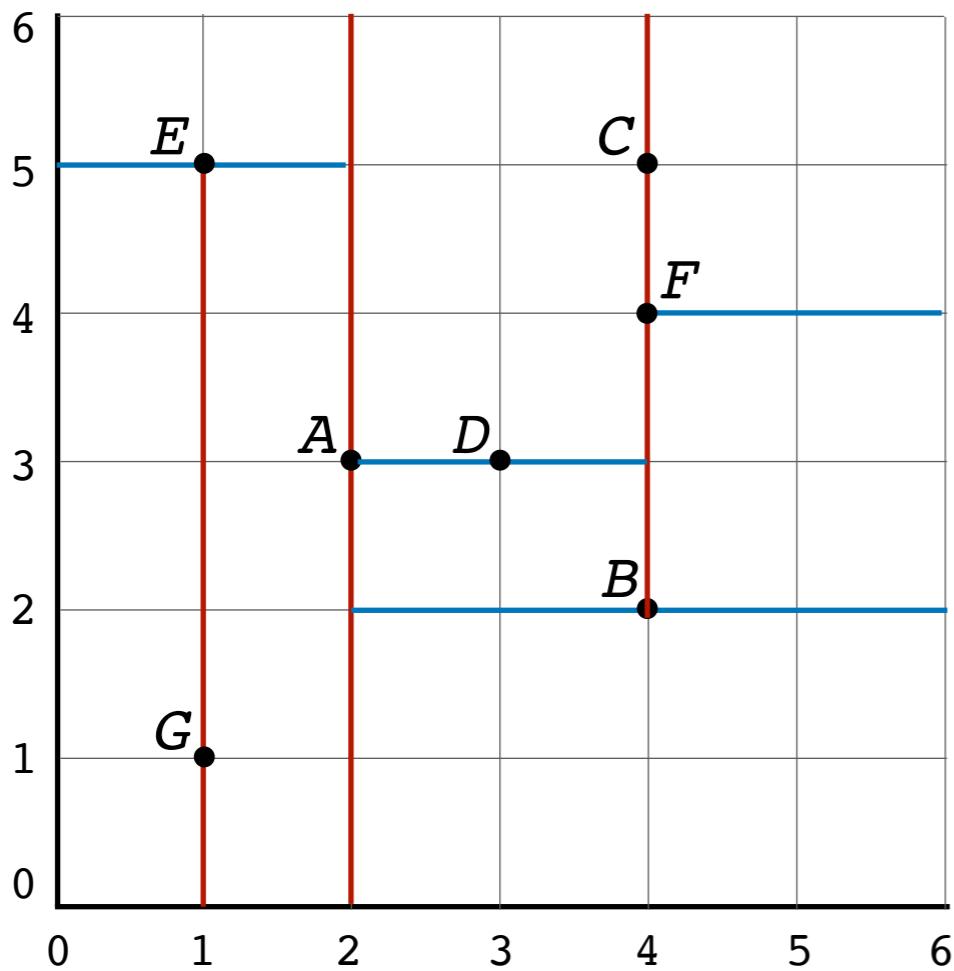
Bounding Boxes  $[(x_{\min}, y_{\min}), (x_{\max}, y_{\max})]$

$A(2, 3)$	$[(-\infty, -\infty), (+\infty, +\infty)]$
$B(4, 2)$	$[(2, -\infty), (+\infty, +\infty)]$
$C(4, 5)$	$[(2, 2), (+\infty, +\infty)]$
$D(3, 3)$	$[(2, 2), (4, +\infty)]$



D's parent is?  $C$

What changed from C to D?  $x \max$



Bounding Boxes  $[(x_{\min}, y_{\min}), (x_{\max}, y_{\max})]$

$A(2, 3)$	$[(-\infty, -\infty), (+\infty, +\infty)]$
$B(4, 2)$	$[(2, -\infty), (+\infty, +\infty)]$
$C(4, 5)$	$[(2, 2), (+\infty, +\infty)]$
$D(3, 3)$	$[(2, 2), (4, +\infty)]$
$F(4, 4)$	$[(4, 2), (+\infty, +\infty)]$
$E(1, 5)$	$[(-\infty, -\infty), (2, +\infty)]$
$G(1, 1)$	$[(-\infty, -\infty), (2, 5)]$

**G's parent is E; y max changed**