

5.1 abs_value

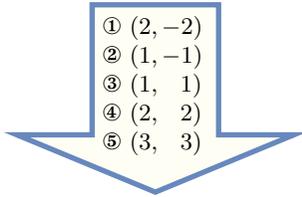
	DESCRIPTION	LINKS
Origin	Arithmetic.	
Constraint	<code>abs_value(Y, X)</code>	
Usual name	<code>abs</code>	
Synonym	<code>absolute_value.</code>	
Arguments	<code>Y : dvar</code> <code>X : dvar</code>	
Restriction	$Y \geq 0$	
Purpose	Enforce the fact that the first variable is equal to the absolute value of the second variable.	
Example	<div style="border: 1px solid black; padding: 2px; display: inline-block;">(8, -8)</div> The <code>abs_value</code> constraint holds since 8 is equal to $ -8 $.	
All solutions	Figure 5.1 gives all solutions to the following non ground instance of the <code>abs_value</code> constraint: $Y \in [1, 6]$, $X \in [-2, 3]$, <code>abs_value(Y, X)</code> .	
		
Arg. properties	Functional dependency: Y determined by X.	
Systems	<code>abs</code> in Choco , <code>abs</code> in Gecode .	
See also	implied by: <code>eq</code> . implies: <code>geq</code> , <code>zero_or_not_zero</code> . implies (if swap arguments): <code>opposite_sign</code> , <code>zero_or_not_zero</code> .	

Figure 5.1: All solutions corresponding to the non ground example of the `abs_value` constraint of the **All solutions** slot

Keywords

constraint arguments: binary constraint, pure functional dependency.

constraint type: predefined constraint, arithmetic constraint.

filtering: arc-consistency.

modelling: functional dependency.