

```

### MEET TCONS ARRAY (des 0) ###
_____Tl+ abstract_____
top
interval of dim (0,0):
_____
array of constraints of size 1
  0: 1 - x0 >= 0
### ### ###
### MEET LINCONS ARRAY (des 0) ###
_____Tl+ abstract_____
top
interval of dim (0,0):
_____
array of constraints of size 2
  0: -x0 + 1 >= 0
  1: -x0 + 1 >= 0
### ### ###
### RESULT OF MEET LINCONS ARRAY (des 0) ###
_____Tl+ abstract_____
(0) := [-oo,1]

(1) := [-oo,+oo]

interval of dim (0,0):
_____
### ### ###
### RESULT OF MEET TCONS ARRAY (des 0) ###
_____Tl+ abstract_____
(0) := [-oo,1]

(1) := [-oo,+oo]

interval of dim (0,0):
_____
### ### ###
### MEET TCONS ARRAY (des 0) ###
_____Tl+ abstract_____
top
interval of dim (0,0):
_____
array of constraints of size 1
  0: x0 - -(1) >= 0
### ### ###
### MEET LINCONS ARRAY (des 0) ###
_____Tl+ abstract_____
top
interval of dim (0,0):
_____
array of constraints of size 2
  0: x0 + 1 >= 0
  1: x0 + 1 >= 0
### ### ###
### RESULT OF MEET LINCONS ARRAY (des 0) ###
_____Tl+ abstract_____
(0) := [-1,+oo]

(1) := [-oo,+oo]

interval of dim (0,0):
_____
### ### ###
### RESULT OF MEET TCONS ARRAY (des 0) ###
_____Tl+ abstract_____
(0) := [-1,+oo]

(1) := [-oo,+oo]

interval of dim (0,0):
_____
### ### ###
### MEET OPERANDS (destructive 0)###
_____Tl+ abstract_____
(0) := [-1,+oo]

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(1) := [-oo,+oo]
interval of dim (0,0):
_____
Tl+ abstract_____
(0) := [-oo,1]

(1) := [-oo,+oo]
interval of dim (0,0):
_____
### ### ###
### RESULT of MEET ###
_____
Tl+ abstract_____
(0) := 0 + 1.(x0)

(1) := [-oo,+oo]
interval of dim (0,0):
_____
### ### ###
### MEET TCONS ARRAY (des 0) ###
_____
Tl+ abstract_____
(0) := 0 + 1.(x0)

(1) := [-oo,+oo]
interval of dim (0,0):
_____
array of constraints of size 1
0: -(x0 - 0) > 0
### ### ###
### MEET LINCONS ARRAY (des 0) ###
_____
Tl+ abstract_____
(0) := 0 + 1.(x0)

(1) := [-oo,+oo]
interval of dim (0,0):
_____
array of constraints of size 2
0: -x0 > 0
1: -x0 >= 0
### ### ###
### RESULT OF MEET LINCONS ARRAY (des 0) ###
_____
Tl+ abstract_____
(0) := 0 + 1.(x0)

(1) := [-oo,+oo]
interval of dim (0,1):
x0 in [-1,0]
_____
### ### ###
### RESULT OF MEET TCONS ARRAY (des 0) ###
_____
Tl+ abstract_____
(0) := 0 + 1.(x0)

(1) := [-oo,+oo]
interval of dim (0,1):
x0 in [-1,0]
_____
### ### ###
### MEET TCONS ARRAY (des 0) ###
_____
Tl+ abstract_____
(0) := 0 + 1.(x0)

(1) := [-oo,+oo]
interval of dim (0,0):
_____

```

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array of constraints of size 1
  0:  $x_0 - 0 \geq 0$ 
### ### ###
### MEET LINCONS ARRAY (des 0) ###
_____Tl+ abstract_____
(0) :=  $0 + 1.(x_0)$ 

(1) :=  $[-\infty, +\infty]$ 

interval of dim (0,0):
_____
array of constraints of size 2
  0:  $x_0 \geq 0$ 
  1:  $x_0 \geq 0$ 
### ### ###
### RESULT OF MEET LINCONS ARRAY (des 0) ###
_____Tl+ abstract_____
(0) :=  $0 + 1.(x_0)$ 

(1) :=  $[-\infty, +\infty]$ 

interval of dim (0,1):
   $x_0$  in  $[0,1]$ 
_____
### ### ###
### RESULT OF MEET TCONS ARRAY (des 0) ###
_____Tl+ abstract_____
(0) :=  $0 + 1.(x_0)$ 

(1) :=  $[-\infty, +\infty]$ 

interval of dim (0,1):
   $x_0$  in  $[0,1]$ 
_____
### ### ###
### JOIN OPERANDS (des 0) ###
_____Tl+ abstract_____
(0) :=  $0 + 1.(x_0)$ 

(1) :=  $2.5 + 20.(x_0) + 2.5.(x_1)$ 

interval of dim (0,1):
   $x_0$  in  $[-1,0]$ 
_____
_____Tl+ abstract_____
(0) :=  $0 + 1.(x_0)$ 

(1) :=  $-1.25 + 10.(x_0) + 1.25.(x_2)$ 

interval of dim (0,1):
   $x_0$  in  $[0,1]$ 
_____
### ### ###
### RESULT of JOIN (des 0) ###
_____Tl+ abstract_____
(0) :=  $0 + 1.(x_0)$ 

(1) :=  $-5 + [u]15.(x_3)$ 

interval of dim (0,0):
_____
### ### ###
### MEET TCONS ARRAY (des 0) ###
_____Tl+ abstract_____
(0) :=  $0 + 1.(x_0)$ 

(1) :=  $-5 + [u]15.(x_3)$ 

interval of dim (0,0):
_____
array of constraints of size 1
  0:  $x_1 - 1 = 0$ 
### ### ###

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```
### MEET LINCONS ARRAY (des 0) ###
```

```
_____T1+ abstract_____
(0) := 0 + 1.(x0)
```

```
(1) := -5 + [u]15.(x3)
```

```
interval of dim (0,0):
```

```
_____array of constraints of size 2
```

```
0: x1 - 1 = 0
1: -x1 + 1 = 0
```

```
### ### ###
```

```
### RESULT OF MEET LINCONS ARRAY (des 0) ###
```

```
_____T1+ abstract_____
(0) := 0 + 1.(x0)
```

```
(1) := [0.99999999999999911182,1.00000000000000008882] + 0.(x3)
```

```
interval of dim (0,1):
```

```
    x3 in [0.39999999999999996669,0.4000000000000000222]
```

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### ### ###
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```
### RESULT OF MEET TCONS ARRAY (des 0) ###
```

```
_____T1+ abstract_____
(0) := 0 + 1.(x0)
```

```
(1) := [0.99999999999999911182,1.00000000000000008882] + 0.(x3)
```

```
interval of dim (0,1):
```

```
    x3 in [0.39999999999999996669,0.4000000000000000222]
```

```
_____ [32mAnnotated program after forward analysis [m
```

```
var x : real, y : real;
```

```
begin
```

```
    /* [31m(L5 C5) top [m */
```

```
    assume x >= -1 and x <= 1; /* [31m(L6 C26) [|x+1.>=0; -x+1.>=0|] [m */
```

```
    if x >= 0 then
```

```
        /* [31m(L7 C14) [|x>=0; -x+1.>=0|] [m */
```

```
        y = 10 * x * x; /* [31m(L8 C12)
```

```
        [|x>=0; -x+1.>=0; y+2.5>=0; -y+10.>=0|] [m */
```

```
    else
```

```
        /* [31m(L9 C4) [|x+1.>=0; -x>=0|] [m */
```

```
        y = -20 * x * x; /* [31m(L10 C13)
```

```
        [|x+1.>=0; -x>=0; y+20.>=0; -y+5.>=0|] [m */
```

```
    endif; /* [31m(L11 C6) [|x+1.>=0; -x+1.>=0; y+20.>=0; -y+10.>=0|] [m */
```

```
    assume y == 1; /* [31m(L12 C14)
```

```
    [|x+1.>=0; -x+1.>=0; y-1.>=0; -y+1.>=0|] [m */
```

```
end
```

```
### ### ###
```