

```

### 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):
_____

```

```

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) :=  $0 + 20.(x_0)$ 

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

(1) :=  $0 + 10.(x_0)$ 

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

(1) :=  $-5 + 10.(x_0) + [u]5.(x_1)$ 

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

(1) :=  $-5 + 10.(x_0) + [u]5.(x_1)$ 

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

```

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

```
Tl+ abstract
```

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

```
(1) := -5 + 10.(x0) + [u]5.(x1)
```

```
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) ###
```

```
Tl+ abstract
```

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

```
(1) := 1 + 0.(x0) + 0.(x1)
```

```
interval of dim (0,2):
```

```
  x0 in [0.099999999999999991673,1]
```

```
  x1 in [-0.800000000000000004441,1]
```

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

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

```
Tl+ abstract
```

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

```
(1) := 1 + 0.(x0) + 0.(x1)
```

```
interval of dim (0,2):
```

```
  x0 in [0.099999999999999991673,1]
```

```
  x1 in [-0.800000000000000004441,1]
```

```
[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; /* [31m(L8 C10) [|x>=0; -x+1.>=0; y>=0; -y+10.>=0|] [m */
```

```
  else
```

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

```
    y = 20 * x; /* [31m(L10 C10) [|x+1.>=0; -x>=0; y+20.>=0; -y>=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-0.1>=0; -x+1.>=0; y-1.=0|] [m */
```

```
end
```

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