

40th Day

Constraints

0100100001111

```
class msd;
```

```
    rand int a[];
```

```
    constraint c1 { a.size() == 13; }
```

```
    constraint c2 {
```

```
        foreach (a[i]) {
```

```
            if (i == 0 || i == 2 || i == 3 || i == 5 || i == 6 || i == 7 || i == 8)
```

```
                a[i] == 0;
```

```
            else
```

```
                a[i] == 1;
```

```
        }
```

```
    }
```

```
function void post_randomize();
```

```
    $write("Binary pattern: ");
```

```
    foreach (a[i])
```

```
        $write("%0d ", a[i]);
```

```
    $display();
```

```
endfunction
```

```
endclass
```

```
module tb;
```

```
    initial
```

```
begin
  msd m=new();
  m.randomize();
end
endmodule
```

Simulation

Chronologic VCS simulator copyright 1991-2023
Contains Synopsys proprietary information.
Compiler version U-2023.03-SP2_Full64; Runtime version U-2023.03-SP2_Full64; May 3 09:47 2025
Binary pattern: 0 1 0 0 1 0 0 0 0 1 1 1 1
V C S S i m u l a t i o n R e p o r t
Time: 0 ns
CPU Time: 0.410 seconds; Data structure size: 0.0Mb
Sat May 3 09:47:42 2025
Done

Code 2 (9 19 29 39 49 59 69)

```
//9 19 29 39 49 59 69
class msd;
  rand int a[];

  constraint c1 { a.size() == 7; }

  constraint c2 {
    foreach (a[i]) {
      a[i]==(i*10)+9;
    }
  }

  function void post_randomize();
    $write("random pattern: ");
    foreach (a[i])
```

```
$write("%0d ", a[i]);  
$display();  
endfunction  
endclass
```

```
module tb;  
  initial  
  begin  
    msd m=new();  
    m.randomize();  
  end  
endmodule
```

Simulation

Chronologic VCS simulator copyright 1991-2023

Contains Synopsys proprietary information.

Compiler version U-2023.03-SP2_Full64; Runtime version U-2023.03-SP2_Full64; May 3 10:16 2025

random pattern: 9 19 29 39 49 59 69

V C S S i m u l a t i o n R e p o r t

Time: 0 ns

CPU Time: 0.400 seconds; Data structure size: 0.0Mb

Sat May 3 10:16:14 2025

Code3

```
//1122334455
```

```
class msd;
```

```
    rand int a[];
```

```
    constraint c1 { a.size() == 10; }
```

```
    constraint c2 {
```

```
        foreach (a[i]) {
```

```
            a[i]==(i+2)/2;
```

```
        }
```

```
    }
```

```
    function void post_randomize();
```

```
        $write("random pattern: ");
```

```
        foreach (a[i])
```

```
            $write("%0d ", a[i]);
```

```
        $display();
```

```
    endfunction
```

```
endclass
```

```
module tb;
```

```
    initial
```

```
        begin
```

```
            msd m=new();
```

```
            m.randomize();
```

```
        end
```

```
endmodule
```

Simulation

Contains Synopsys proprietary information.

Compiler version U-2023.03-SP2_Full64; Runtime version U-2023.03-SP2_Full64; May 3 10:22 2025

random pattern: 1 1 2 2 3 3 4 4 5 5

V C S S i m u l a t i o n R e p o r t

Time: 0 ns

CPU Time: 0.390 seconds; Data structure size: 0.0Mb

Sat May 3 10:22:53 2025

Manoj Kurishetti