

```
stone@ubuntu: ~/System_Verilog_Udemy/3_Randomization/4_Constraint...
1 class generator;
2   randc bit [3:0] a, b; // rand or randc
3   bit [3:0] y;
4
5
6   constraint data {
7     a inside {[0:8], [10:11], 15}; // 랜덤값 범위 지정 0-8, 10,11,15
8     b inside {[3:11]}; // 랜덤값 범위 지정 3-11
9   }
10
11 endclass
12
13 module tb;
14   generator g;
15   int i = 0;
16   int status = 0;
17
18   initial begin
19     g = new();
20
21     for(i=0;i<15;i++) begin
22
23       assert(g.randomize())
24       else $display("Randomization Failed");
25       $display("Value of a :%0d and b: %0d", g.a,g.b);
26       #10;
27     end
28
29   end
30
31
32 endmodule

```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_Randomization/4_Constraint_Range
= ./simv.daidir/ -Wl,-rpath="$ORIGIN"/simv.daidir/scsim.db.dir -L/usr/lib/x86_64-linux-gnu -L/lib/x86_64-linux
x-gnu-Wl,-no-as-needed -rdynamic -Wl,-rpath=/usr/stone/software/vcs2018/vcs/0-2018.09-SP2/linux64/lib -L/us
r/stone/software/vcs2018/vcs/0-2018.09-SP2/linux64/lib objs/ancow.d.o _14385_archive.1.so SIM_1.o r
mapats_mop.o rmapats.o rmar.o rmar_nd.o rmar_llvm_0.1.o rmar_llvm_0.0.o -lzerosoft_rt_stubs -lvirsim
-lerrorinf -lsnpsmalloc -lvfs -lvcsnew -lsimprofile -luclintative /usr/stone/software/vcs2018/vcs/0-2018.09
-SP2/linux64/lib/vcs.tls.o -Wl,-whole-archive -lvcsucli -Wl,-no-whole-archive vcs_pli_stub.o /usr
/stone/software/vcs2018/vcs/0-2018.09-SP2/linux64/lib/vcs_save_restore_new.o /usr/stone/software/verdi/verdi/V
erdi_0-2018.09-SP2/share/PLI/VCS/LINUX64/pli.a -ldl -lc -lm -lpthread -ldl
./simv up to date
CPU time: .597 seconds to compile + .271 seconds to elab + .257 seconds to link
Verdi KDB elaboration done and the database successfully generated: 0 error(s), 0 warning(s)
stone@ubuntu:~/System_Verilog_Udemy/3_Randomization/4_Constraint_Range$ ./simv
Chronologic VCS simulator copyright 1991-2018
Contains Synopsys proprietary information.
Compiler version 0-2018.09-SP2_Full64; Runtime version 0-2018.09-SP2_Full64; Sep 3 01:25 2023
Value of a :8 and b: 9
Value of a :10 and b: 8
Value of a :4 and b: 7
Value of a :11 and b: 3
Value of a :7 and b: 4
Value of a :15 and b: 5
Value of a :3 and b: 11
Value of a :6 and b: 6
Value of a :0 and b: 10
Value of a :2 and b: 9
Value of a :1 and b: 11
Value of a :5 and b: 8
Value of a :7 and b: 4
Value of a :6 and b: 10
Value of a :15 and b: 5
VCS Simulation Report
Time: 150
CPU Time: 0.370 seconds; Data structure size: 0.0Mb
Sun Sep 3 01:25:43 2023
stone@ubuntu:~/System_Verilog_Udemy/3_Randomization/4_Constraint_Range$
```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_Randomization/4_Constraint...
1 class generator;
2   randc bit [3:0] a, b; // rand or randc
3   bit [3:0] y;
4
5 /*
6   constraint data {
7     a inside {[0:8], [10:11], 15}; // 랜덤값 범위 지정 0-8, 10,11,15
8     b inside {[3:11]}; // 랜덤값 범위 지정 3-11
9   }
10 */
11
12   constraint data {
13     !(a inside {[3:7]}); //제외 시키고 싶은 랜덤값범위 지정 3-7
14     !(b inside {[5:9]}); //제외 시키고 싶은 랜덤값범위 지정 5-9
15   }
16
17 endclass
18
19 module tb;
20   generator g;
21   int i = 0;
22   int status = 0;
23
24   initial begin
25     g = new();
26
27     for(i=0;i<15;i++) begin
28
29       assert(g.randomize())
30       else $display("Randomization Failed");
31       $display("Value of a :%0d and b: %0d", g.a,g.b);
32       #10;
33     end
34
35   end
36
37 endmodule

```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_Randomization/4_Constraint_Range
= ./simv.daidir/ -Wl,-rpath="$ORIGIN"/simv.daidir/scsim.db.dir -L/usr/lib/x86_64-linux-gnu -L/lib/x86_64-linu
x-gnu-Wl,-no-as-needed -rdynamic -Wl,-rpath=/usr/stone/software/vcs2018/vcs/0-2018.09-SP2/linux64/lib -L/us
r/stone/software/vcs2018/vcs/0-2018.09-SP2/linux64/lib _15832_archive.1.so _prev_archive.1.so _csrc0.so S
IM_1.o _csrc0.so rmapats_mop.o rmapats.o rmar.o rmar_nd.o rmar_llvm_0.1.o rmar_llvm_0.0.o -lzer
osoft_rt_stubs -lvirsim -lerrorinf -lsnpsmalloc -lvfs -lvcsnew -lsimprofile -luclintative /usr/stone/softwar
e/vcs2018/vcs/0-2018.09-SP2/linux64/lib/vcs.tls.o -Wl,-whole-archive -lvcsucli -Wl,-no-whole-archive
_vcs_pli_stub.o /usr/stone/software/vcs2018/vcs/0-2018.09-SP2/linux64/lib/vcs_save_restore_new.o /usr/stone
/software/verdi/verdi/Verdi_0-2018.09-SP2/share/PLI/VCS/LINUX64/pli.a -ldl -lc -lm -lpthread -ldl
./simv up to date
CPU time: .142 seconds to compile + .116 seconds to elab + .197 seconds to link
Verdi KDB elaboration done and the database successfully generated: 0 error(s), 0 warning(s)
stone@ubuntu:~/System_Verilog_Udemy/3_Randomization/4_Constraint_Range$ ./simv
Chronologic VCS simulator copyright 1991-2018
Contains Synopsys proprietary information.
Compiler version 0-2018.09-SP2_Full64; Runtime version 0-2018.09-SP2_Full64; Sep 3 01:36 2023
Value of a :15 and b: 14
Value of a :8 and b: 4
Value of a :12 and b: 13
Value of a :13 and b: 10
Value of a :11 and b: 0
Value of a :14 and b: 2
Value of a :2 and b: 12
Value of a :10 and b: 1
Value of a :9 and b: 11
Value of a :1 and b: 15
Value of a :0 and b: 3
Value of a :15 and b: 4
Value of a :13 and b: 1
Value of a :2 and b: 10
Value of a :14 and b: 2
VCS Simulation Report
Time: 150
CPU Time: 0.140 seconds; Data structure size: 0.0Mb
Sun Sep 3 01:36:27 2023
stone@ubuntu:~/System_Verilog_Udemy/3_Randomization/4_Constraint_Range$
```

