

```
stone@ubuntu: ~/System_Verilog_Udemy/3_OOP/3_TASK
1 module tb;
2
3     ///기본방향은 : input
4     task add(input bit [3:0] a, input bit [3:0] b, output bit [4:0] y);
5         y = a + b;
6     endtask
7
8     bit [3:0] a,b;
9     bit [3:0] y;
10
11     initial begin
12         a = 7;
13         b = 7;
14         add(a,b,y);
15         $display ("value of y : %0d", y);
16     end
17 endmodule

2 fewer lines; before #22 2 seconds ago          9,13-15    All
```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_OOP/3_TASK
Parsing design file 'task.sv'
Top Level Modules:
    tb
No TimeScale specified
Starting vcs inline pass...
1 module and 0 UDP read.
recompiling module tb
rm -f _csrc*.so pre_vcsobj*.so share_vcsobj*.so
if [ -x ../simv ]; then chmod -x ../simv; fi
g++ -o ../simv -no-pie -Wl,--no-as-needed -Wl,-rpath-link=../ -Wl,-rpath=$ORIGIN/s
imv.daidir/ -Wl,-rpath=../simv.daidir/ -Wl,-rpath=$ORIGIN/simv.daidir/scsim.db.dir -L
/usr/lib/x86_64-linux-gnu -L/lib/x86_64-linux-gnu -Wl,--no-as-needed -rdynamic -Wl,-rpa
th=/usr/stone/software/vcs2018/vcs/0-2018.09-SP2/linux64/lib -L/usr/stone/software/vcs20
18/vcs/0-2018.09-SP2/linux64/lib objs/amcQw.d.o _12941.archive.1.so SIM_l.o r
mapats_mop.o rmapats.o rmar.o rmar_nd.o rmar_llvm_0.1.o rmar_llvm_0.0.o -lzero
soft_rt_stubs -lvrsim -lerrorinf -lsnpsmalloc -lvfs -lvcnew -lsimprofile -luclinati
ve /usr/stone/software/vcs2018/vcs/0-2018.09-SP2/linux64/lib/vcs.tls.o -Wl,-whole-archi
ve -lvcsucli -Wl,-no-whole-archive _vcs_pli_stub.o /usr/stone/software/vcs201
8/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 -lptread -ldl
../simv up to date
CPU time: .143 seconds to compile + .118 seconds to elab + .196 seconds to link
Verdi KDB elaboration done and the database successfully generated: 0 error(s), 0 warnin
g(s)
stone@ubuntu:~/System_Verilog_Udemy/3_OOP/3_TASK$ ./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; Aug 22 02:
17 2023
value of y : 14
VCS Simulation Report
Time: 0
CPU Time: 0.130 seconds; Data structure size: 0.0Mb
Tue Aug 22 02:17:25 2023
stone@ubuntu:~/System_Verilog_Udemy/3_OOP/3_TASK$
```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_OOP/3_TASK
1 module tb;
2
3     ///기본방향은 : input
4     /*
5     task add(input bit [3:0] a, input bit [3:0] b, output bit [4:0] y);
6         y = a + b;
7     endtask
8     */
9     bit [3:0] a,b;
10    bit [3:0] y;
11
12    task add();
13        y = a + b;
14    endtask
15
16    initial begin
17        a = 7;
18        b = 7;
19        add ();
20        $display ("value of y : %0d", y);
21    end
22 endmodule

"task.sv" 22L, 309C written          19,8-12    All
```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_OOP/3_TASK
tb
No TimeScale specified
Starting vcs inline pass...
1 module and 0 UDP read.
recompiling module tb
rm -f _csrc*.so pre_vcsobj*.so share_vcsobj*.so
ld -shared -Bsymbolic -o ../simv.daidir/_csrc0.so objs/amcQw.d.o
rm -f _csrc0.so
if [ -x ../simv ]; then chmod -x ../simv; fi
g++ -o ../simv -no-pie -Wl,--no-as-needed -Wl,-rpath-link=../ -Wl,-rpath=$ORIGIN/s
imv.daidir/ -Wl,-rpath=../simv.daidir/ -Wl,-rpath=$ORIGIN/simv.daidir/scsim.db.dir -L
/usr/lib/x86_64-linux-gnu -L/lib/x86_64-linux-gnu -Wl,--no-as-needed -rdynamic -Wl,-rpa
th=/usr/stone/software/vcs2018/vcs/0-2018.09-SP2/linux64/lib -L/usr/stone/software/vcs20
18/vcs/0-2018.09-SP2/linux64/lib _15724.archive.1.so _prev_archive.1.so _csrc0.so S
IM_l.o _csrc0.so rmapats_mop.o rmapats.o rmar.o rmar_nd.o rmar_llvm_0.1.o rmar_llv
m_0.0.o -lzerosoft_rt_stubs -lvrsim -lerrorinf -lsnpsmalloc -lvfs -lvcnew
-lsimprofile -luclivariate /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 /us
r/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 -lpt
hread -ldl
../simv up to date
CPU time: .144 seconds to compile + .117 seconds to elab + .207 seconds to link
Verdi KDB elaboration done and the database successfully generated: 0 error(s), 0 warnin
g(s)
stone@ubuntu:~/System_Verilog_Udemy/3_OOP/3_TASK$ ./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; Aug 22 02:
43 2023
value of y : 14
VCS Simulation Report
Time: 0
CPU Time: 0.130 seconds; Data structure size: 0.0Mb
Tue Aug 22 02:43:14 2023
stone@ubuntu:~/System_Verilog_Udemy/3_OOP/3_TASK$ P
```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_OOP/3_TASK
3     ///기본방향은 : input
4     /*
5     task add(input bit [3:0] a, input bit [3:0] b, output bit [4:0] y);
6         y = a + b;
7     endtask
8     */
9     bit [3:0] a,b;
10    bit [3:0] y;
11
12    task add();
13        y = a + b;
14        $display ("a :%0d and b: %0d and y : %0d",a,b,y);
15    endtask
16
17    task stim_a_b();
18        a = 1;
19        b = 3;
20        add();
21        #10;
22
23        a = 5;
24        b = 6;
25        add();
26        #10;
27
28        a = 7;
29        b = 8;
30        add();
31        #10;
32    endtask
33
34    initial begin
35        stim_a_b();
36    end
37 endmodule

"task.sv" 37L, 445C written          35,15-17    Bot
```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_OOP/3_TASK
Starting vcs inline pass...
1 module and 0 UDP read.
recompiling module tb
rm -f _csrc*.so pre_vcsobj*.so share_vcsobj*.so
ld -shared -Bsymbolic -o ../simv.daidir/_csrc0.so objs/amcQw.d.o
rm -f _csrc0.so
if [ -x ../simv ]; then chmod -x ../simv; fi
g++ -o ../simv -no-pie -Wl,--no-as-needed -Wl,-rpath-link=../ -Wl,-rpath=$ORIGIN/s
imv.daidir/ -Wl,-rpath=../simv.daidir/ -Wl,-rpath=$ORIGIN/simv.daidir/scsim.db.dir -L
/usr/lib/x86_64-linux-gnu -L/lib/x86_64-linux-gnu -Wl,--no-as-needed -rdynamic -Wl,-rpa
th=/usr/stone/software/vcs2018/vcs/0-2018.09-SP2/linux64/lib -L/usr/stone/software/vcs20
18/vcs/0-2018.09-SP2/linux64/lib _16733.archive.1.so _prev_archive.1.so _csrc0.so S
IM_l.o _csrc0.so rmapats_mop.o rmapats.o rmar.o rmar_nd.o rmar_llvm_0.1.o rmar_llv
m_0.0.o -lzerosoft_rt_stubs -lvrsim -lerrorinf -lsnpsmalloc -lvfs -lvcnew
-lsimprofile -luclivariate /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 /us
r/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 -lpt
hread -ldl
../simv up to date
CPU time: .144 seconds to compile + .120 seconds to elab + .202 seconds to link
Verdi KDB elaboration done and the database successfully generated: 0 error(s), 0 warnin
g(s)
stone@ubuntu:~/System_Verilog_Udemy/3_OOP/3_TASK$ ./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; Aug 22 02:
56 2023
a :1 and b: 3 and y : 4
a :5 and b: 6 and y : 11
a :7 and b: 8 and y : 15
VCS Simulation Report
Time: 30
CPU Time: 0.140 seconds; Data structure size: 0.0Mb
Tue Aug 22 02:56:03 2023
stone@ubuntu:~/System_Verilog_Udemy/3_OOP/3_TASK$ P
```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_OOP/3_TASK
1 module tb;
2
3 //기본방향은 : input
4 /*
5 task add(input bit [3:0] a, input bit [3:0] b, output bit [4:0] y);
6     y = a + b;
7 endtask
8 */
9 bit [3:0] a,b;
10 bit [3:0] y;
11 bit [4:0] clk;
12
13 always #5 clk = ~clk; //20ns ----> 50mhz
14
15 task add();
```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_OOP/3_TASK
12
13 always #5 clk = ~clk; //20ns ----> 50mhz
14
15 task add();
16     y = a + b;
17     $display ("a :%0d and b: %0d and y : %0d",a,b,y);
18 endtask
19
20 task stim_a_b();
21     a = 1;
22     b = 3;
23     add();
24     #10;
25
26     a = 5;
27     b = 6;
28     add();
29     #10;
30
31     a = 7;
32     b = 8;
33     add();
34     #10;
35 endtask
36
37 task stim_clk ();
38 @ (posedge clk) //wait
39     a = $random();
40     b = $random();
41     add();
42 endtask
43
44 initial begin
45     #110;
46     $finish();
47 end
48
49 initial begin
50     for (int i=0; i<11; i++) begin
51         stim_clk();
52     end
53 end
54
55 endmodule
```

```
stone@ubuntu: ~/System_Verilog_Udemy/3_OOP/3_TASK
Chronologic VCS (TM)
Version 0-2018.09-SP2_Full64 -- Tue Aug 22 03:07:27 2023
Copyright (c) 1991-2018 by Synopsys Inc.
ALL RIGHTS RESERVED

This program is proprietary and confidential information of Synopsys Inc.
and may be used and disclosed only as authorized in a license agreement
controlling such use and disclosure.

The design hasn't changed and need not be recompiled.
If you really want to, delete file simv.daidir/.vcs.timestamp and
run VCS again.

stone@ubuntu:~/System_Verilog_Udemy/3_OOP/3_TASK$ ./simv
Chronologic VCS simulator copyright 1991-2018
```

```
stone@ubuntu:~/System_Verilog_Udemy/3_OOP/3_TASK$ ./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; Aug 22 03:
07 2023
a :1 and b: 13 and y : 14
a :14 and b: 11 and y : 9
a :1 and b: 3 and y : 4
a :9 and b: 8 and y : 1
a :3 and b: 4 and y : 7
a :7 and b: 5 and y : 12
a :0 and b: 15 and y : 15
a :14 and b: 7 and y : 5
a :8 and b: 1 and y : 9
a :11 and b: 7 and y : 2
a :1 and b: 5 and y : 6
$finish called from file "task.sv", line 46.
$finish at simulation time 110
VCS Simulation Report

Time: 110
CPU Time: 0.130 seconds; Data structure size: 0.0Mb
Tue Aug 22 03:07:29 2023
stone@ubuntu:~/System_Verilog_Udemy/3_OOP/3_TASK$
```

