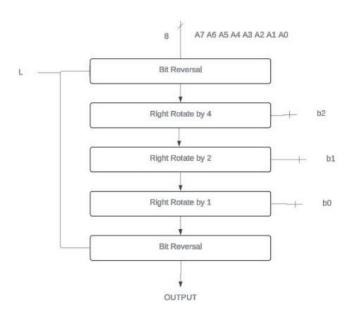
Experiment 4 - Universal Rotator

1. Design



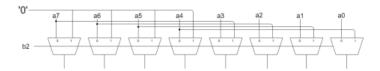
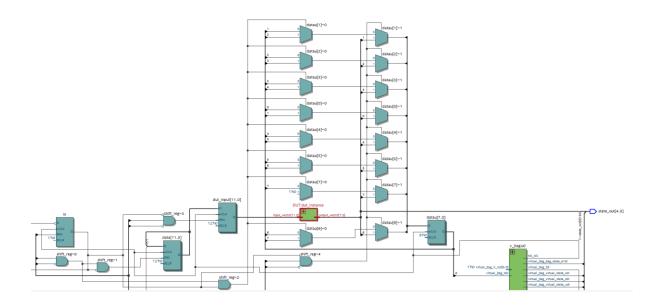


Figure 2: Right shift by 4 bits

Simulation





Testing terminal

```
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There is absolutely no warranty for UrJTAG.

WARNING: UrJTAG may damage your hardware!
Type "quit" to exit, "help" for help.

jtag> cable
cable: syntax error!
jtag> cable ft2232

Couldn't connect to suitable USB device.

Error: Cable connection failed!
jtag> cable ft2232

Councted to libftd2xx driver.
jtag> detect
IR length: 10

Chain length: 1

Device Id: 00000011000110000100000001011101 (0x0000000001840DD)

Manufacturer: Attera
Part(0): 10M2SSAE144

Stepping: 1

Filename: d'\intelfpga_lite\18.1\universal_rotator\universal_rotator\xen10_files\universal_max10\urjtag\ata/altera/10m25SAE144

jtag> so U:\intelFpGA_lite\18.1\universal_Rotator\Universal_Rotator\Universal_Rotator.svf progress

Marning svf: unimplemented mode 'ABSENT' for TRST

Parsing 3749/3748 (9%)

Scanned device output matched expected TDO values.
jtag>
```

Scan chain output

```
000000000000 00000000 Success
000000000001 00000001 Success
000000000010 00000010 Success
000000000011 00000011 Success
000000000100 00000100 Success
000000000101 00000101 Success
000000000110 00000110 Success
000000000111 00000111 Success
000000001000 00001000 Success
000000001001 00001001 Success
00000001010 00001010 Success
000000001011 00001011 Success
000000001100 00001100 Success
000000001101 00001101 Success
000000001110 00001110 Success
000000001111 00001111 Success
000000010000 00010000 Success
000000010001 00010001 Success
000000010010 00010010 Success
000000010011 00010011 Success
000000010100 00010100 Success
000000010101 00010101 Success
000000010110 00010110 Success
000000010111 00010111 Success
000000011000 00011000 Success
000000011001 00011001 Success
```