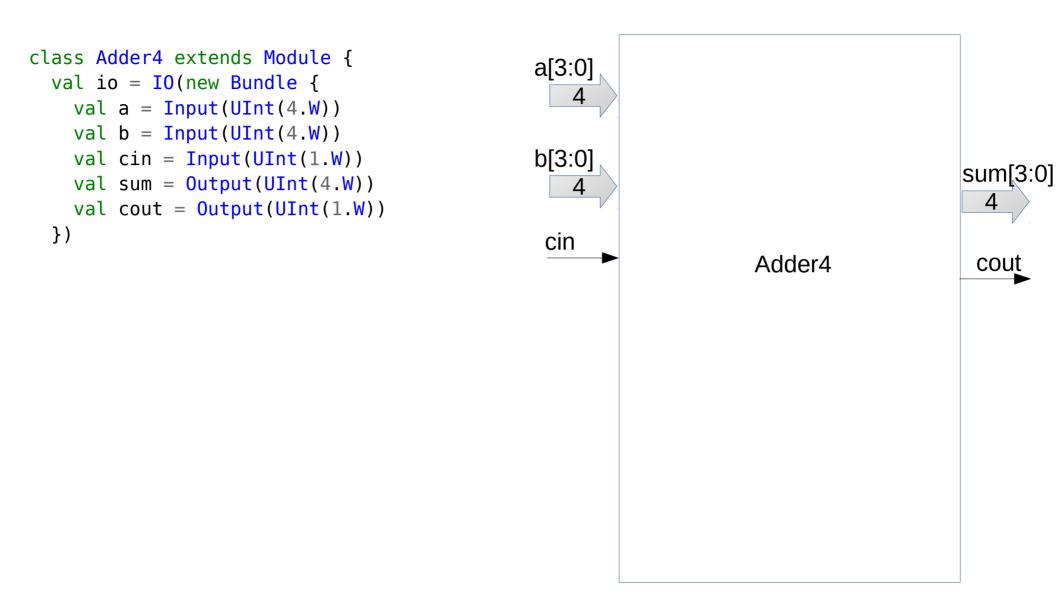
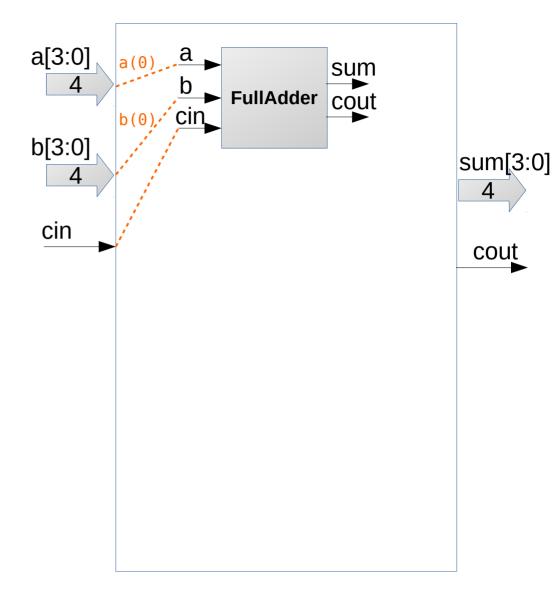
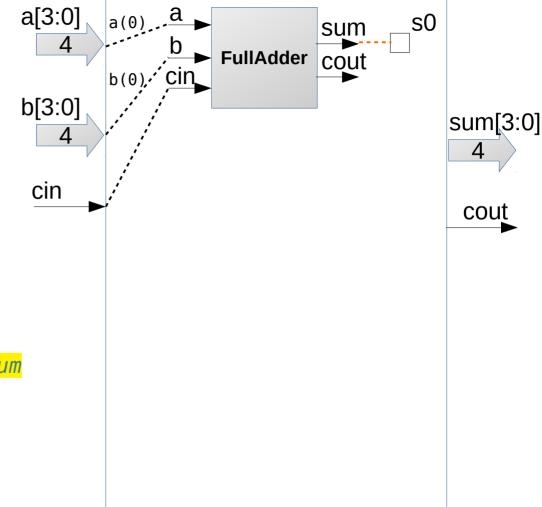
Υποδείξεις για το 3ο εργαστήριο



```
val adder0 = Module(new FullAdder())
adder0.io.a := io.a(0)
adder0.io.b := io.b(0)
adder0.io.cin := io.cin
```



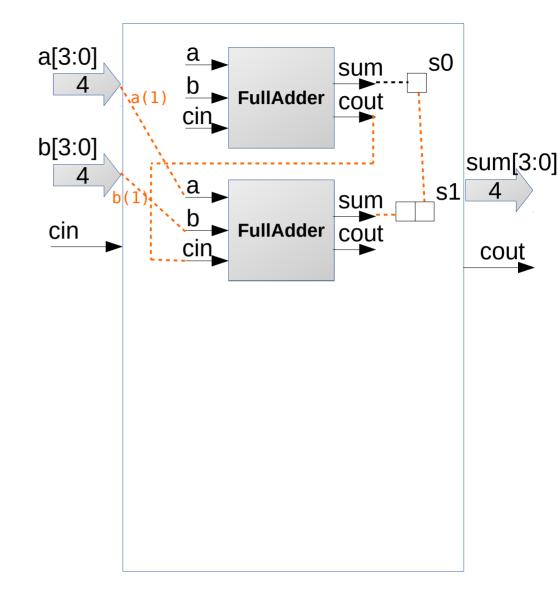
```
val adder0 = Module(new FullAdder())
adder0.io.a := io.a(0)
adder0.io.b := io.b(0)
adder0.io.cin := io.cin
val s0 = adder0.io.sum
```



ΠΡΟΣΟΧΗ!! το <code>io.sum(0) := adder0.io.sum</code> ΔΕΝ είναι σωστό και ΔΕΝ δουλεύει!!

```
val adder0 = Module(new FullAdder())
adder0.io.a := io.a(0)
adder0.io.b := io.b(0)
adder0.io.cin := io.cin
val s0 = adder0.io.sum
val adder1 = Module(new FullAdder())
// συμπληρώστε αντίστοιχα...
adder1.io.a := ???
adder1.io.b := ???
adder1.io.cin := ???
val s1 = Cat(adder1.io.sum, s0)
```

Cat(A,B): συνενώνει τα Α και Β



```
a[3:0]
val adder0 = Module(new FullAdder())
                                                                        sum
adder0.io.a := io.a(0)
                                                               FullAdder cout
adder0.io.b := io.b(0)
                                                          cin
adder0.io.cin := io.cin
                                            b[3:0]
val s0 = adder0.io.sum
                                                                        sum
val adder1 = Module(new FullAdder())
                                                               FullAdder Cout
                                              cin
// συμπληρώστε αντίστοιχα...
                                                          cin
adder1.io.a := ???
adder1.io.b := ???
adder1.io.cin := ???
                                                                        sum
val s1 = Cat(adder1.io.sum,s0)
                                                               FullAdder
                                                                        cout
                                                          cin
val adder2 = Module(new FullAdder())
// συμπληρώστε αντίστοιχα...
adder2.io.a := ???
adder2.io.b := ???
adder2.io.cin := ???
val s2 = Cat(???)
```

s0

s1

**s**2

sum[3:0]

cout

```
a[3:0]
val adder3 = Module(new FullAdder())
                                                                                 s0
                                                                         sum
// συμπληρώστε αντίστοιχα...
                                                           b
                                                               FullAdder Cout
adder3.io.a := ???
                                                          cin
adder3.io.b := ???
                                             b[3:0]
adder3.io.cin := ???
                                                                                     sum[3:0]
val s3 = Cat(???)
                                                                                  s1
                                                                                       4
                                                                         sum
                                              cin
                                                               FullAdder
                                                                         cout
                                                          cin
                                                                                      cout
                                                                                   s2
                                                                         sum
                                                               FullAdder
                                                                         cout
                                                          cin
                                                                                   s3
                                                                         sum
                                                               FullAdder Cout
                                                          cin
```

```
a[3:0]
val adder3 = Module(new FullAdder())
                                                                          sum
// συμπληρώστε αντίστοιχα...
                                                               FullAdder Cout
adder3.io.a := ???
                                                           cin
adder3.io.b := ???
                                              b[3:0]
adder3.io.cin := ???
                                                                                       sum[3:0]
val s3 = Cat(???)
                                                                                         4
                                                                          sum
                                               cin
                                                                 FullAdder
io.sum := ???
                                                                          cout
                                                           cin
io.cout := ???
                                                                          sum
                                                                 FullAdder
                                                                          cout
                                                           cin
                                                                                   <u>s3</u>
                                                                          sum
                                                               ► FullAdder Cout
                                                           cin
                                                                                        cout
```