```
1   module adder(a,b,cin,sum,cout);
2       input a,b,cin;
3       output sum,cout;
4
5       not U5(a_,a);
6       not U6(b_,b);
7       nand U1(ab,a_,b_);
8       nand U2(a_b_,a,b);
9       nand U3(u1_cin_,ab,cin);
10      nand U4(cout,a_b_,u1_cin_);
11
12  endmodule
```