Half adder

module half\_adder(input a, b, output sum, carry);

assign sum = a ^ b;

assign carry = a & b;

endmodule

Full adder

Module fa\_df(a,b,c,sum,cout)

Input a,b,c;

Output sum;

Output cout;

Assign sum=(a^b^c);

Assign =(a&b)|(b&c)|(a&c);

Endmodule

Half subtractor

module half\_subtractor(input a, b, output diff, borrow);

assign diff = a ^ b;

assign borrow = ~a & b;

endmodule

Fullsubtractor

module full\_subtractor(input a, b, bin, output diff, bout);

assign diff = a ^ b ^ bin;

assign bout = (~a & b) | (~a & bin) | (b & bin);

endmodule