```
module ALUControl (ALUOp, FuncCode, ALUCtl);
    input [1:0] ALUOp;
    input [5:0] FuncCode;
    output [3:0] reg ALUCtl;

    always case (FuncCode)

    32: ALUOp<=2; // add
    34: ALUOp<=6; //subtract
    36: ALUOP<=0; // and
    37: ALUOp<=1; // or
    39: ALUOp<=12; // nor
    42: ALUOp<=7; // slt
    default: ALUOp<=15; // should not happen
    endcase
endmodule
```

FIGURE B.5.16 The MIPS ALU control: a simple piece of combinational control logic.