

```
module mux(SW, LEDR);
    input [9:0] SW;
    output [9:0] LEDR;
    reg Out;

    always @(*)
    begin
        case (SW[9:7])
            3'b000: Out = SW[0];
            3'b001: Out = SW[1];
            3'b010: Out = SW[2];
            3'b011: Out = SW[3];
            3'b100: Out = SW[4];
            3'b101: Out = SW[5];
            3'b110: Out = SW[6];
            default: Out = SW[0];
        endcase
    end
    assign LEDR[0] = Out;
endmodule
```