Diseño de Sistemas Digitales
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PWM PROTOTYPE

Manual de Usuario

1. Conecte su PWM PROTOTYPE a una fuente de 5V DC.

2. Compruebe el funcionamiento de cada dispositivo accionando los switches correspondientes.
   - Switch amarillo acciona Pilot Light Amarillo
   - Switch Verde acciona Pilot Light Verde
   - Switch Rojo acciona Pilot Light Rojo
   - Switch negro acciona el abanico
   - Switch de palanca acciona la bocina

3. Si desea varia la velocidad de encendido y apagado de cada uno de los componentes, modifique los valores en la programación base.

```
`timescale 1ns / 1ps

module top(
    input CLK,
    output reg [3:0] out
    );

    reg [32:0] counter;


        always @ (posedge CLK)
begin
    counter <= counter + 1;
    out[0] <= counter[23];
    out[1] <= counter[24];
    out[2] <= counter[25];
    out[3] <= counter[18];

    end
endmodule
```

```
## Clock signal
set_property -dict {PACKAGE_PIN E3  IOSTANDARD LVCMOS33} [get_ports {CLK}];#IO_L12P_T1_MRCC_35 Sch=golk[100]
create_clock -add -name sys_clk_pin -period 10.00 -waveform {0 5} [get_ports {CLK}];

##Pmod Header JB

set_property -dict { PACKAGE_PIN E15   IOSTANDARD LVCMOS33 } [get_ports { out[0] }]; #IO_L11P_T1_SRCC_15 Sch=jb_p[1]
set_property -dict { PACKAGE_PIN E16   IOSTANDARD LVCMOS33 } [get_ports { out[1] }]; #IO_L11N_T1_SRCC_15 Sch=jb_n[1]
set_property -dict { PACKAGE_PIN D15   IOSTANDARD LVCMOS33 } [get_ports { out[2] }]; #IO_L12P_T1_MRCC_15 Sch=jb_p[2]
set_property -dict { PACKAGE_PIN C15   IOSTANDARD LVCMOS33 } [get_ports { out[3] }]; #IO_L12N_T1_MRCC_15 Sch=jb_n[2]
```