PRACTICA 7 - C1

```
library IEEE;
use IEEE.STD_LOGIC_1164.ALL;

entity Practica_3xilinx is
    Port ( E  : in  STD_LOGIC;
           CK : in  STD_LOGIC;
                        RS : in  STD_LOGIC;
                        Q  : out  STD_LOGIC_VECTOR (2 downto 0);
           S  : out STD_LOGIC);
end Practica_3xilinx;

architecture MOORE of Practica_3xilinx is
                    subtype mis_estados is std_logic_vector(2 downto 0);
                    constant E0 : mis_estados :="000";
                    constant E1 : mis_estados :="001";
                    constant E2 : mis_estados :="010";
                    constant E3 : mis_estados :="011";
                    constant E4 : mis_estados :="100";
                    constant E5 : mis_estados :="101";
                    signal   estado : mis_estados;
                    begin
                    EVOLUCION: process
                            begin
                            wait until CK = '1';
                            if (RS = '1') then estado <= E0;
                            else case estado is
                                    when E0 => if (E = '1') then estado <= E1; end if;
                                    when E1 => if (E = '1') then estado <= E2; else estado <= E0;
end if;
                                    when E2 => if (E = '1') then estado <= E3; else estado <= E0;
end if;
                                    when E3 => if (E = '0') then estado <= E4; end if;
                                    when E4 => if (E = '0') then estado <= E5; end if;
                                    when E5 => if (E = '0') then estado <= E0; end if;
                                    when others =>
                                    end case;
                            end if;
                    end process;
```

```
process (estado)
		begin
			case estado is
				when E0 => S <='0';
				when E1 => S <='0';
				when E2 => S <='0';
				when E3 => S <='1';
				when E4 => S <='1';
				when E5 => S <='1';
				when others => S <='0';
			end case;

		end process;
		Q<=estado;


end MOORE;
```