**16.BCD2BIN**

**LIBRARY IEEE;**

**USE IEEE.STD\_LOGIC\_1164.ALL;**

**ENTITY BCD2BIN IS**

**PORT ( DATA\_IN : IN STD\_LOGIC\_VECTOR (4 DOWNTO 0);**

**DATA\_OUT : OUT STD\_LOGIC\_VECTOR (3 DOWNTO 0) );**

**END ENTITY;**

**ARCHITECTURE BCD2BIN\_ARCH OF BIN2GARY IS**

**BEGIN**

**PROCESS(DATA\_IN)**

**VARIABLE Y : STD\_LOGIC\_VECTOR (4 DOWNTO 0);**

**BEGIN**

**IF  DATA\_IN <"01010" THEN**

**DATA\_OUT <=B(3)&B(2)&B(1)&B(0);**

**ELSE Y:= DATA\_IN -"00110";**

**DATA\_OUT <=Y(3)&Y(2)&Y(1)&Y(0);**

**END IF;**

**END PROCESS;**

**END ARCHITECTURE;**