Control Components Applications

Sheet 1 solu.

Introduction to Embedded Systems

Essam gamil

Sec : 6

2017/2018

Q1: Write embedded program that produces continuous pulses with duration of 2 seconds and duty cycle of 25%.

```c
#include <avr/io.h>

#include <util/delay.h>

int main(void){

 DDRA = 0x00;

   while(1){

     PORTA = 0X01;

     _delay_ms(500);

     PORTA = 0X00;

     _delay_ms(1500);

   }

   return 0;

}
```

Q2: Write embedded program that show a bouncing light between 4 LEDs connected to pins 4, 5, 6 and 7. The bouncing delay is 1 second.

```c
#include <avr/io.h>
#include <util/delay.h>
int main(void){
  DDRA = 0x00;
  while(1){
    PORTA = 0X04;
    _delay_ms(1000);
    PORTA = 0X05;
    _delay_ms(1000);
    PORTA = 0X06;
    _delay_ms(1000);
    PORTA = 0X07;
    _delay_ms(1000);
    PORTA = 0X06;
    _delay_ms(1000);
    PORTA = 0X05;
    _delay_ms(1000)  }
  return 0;
}
```