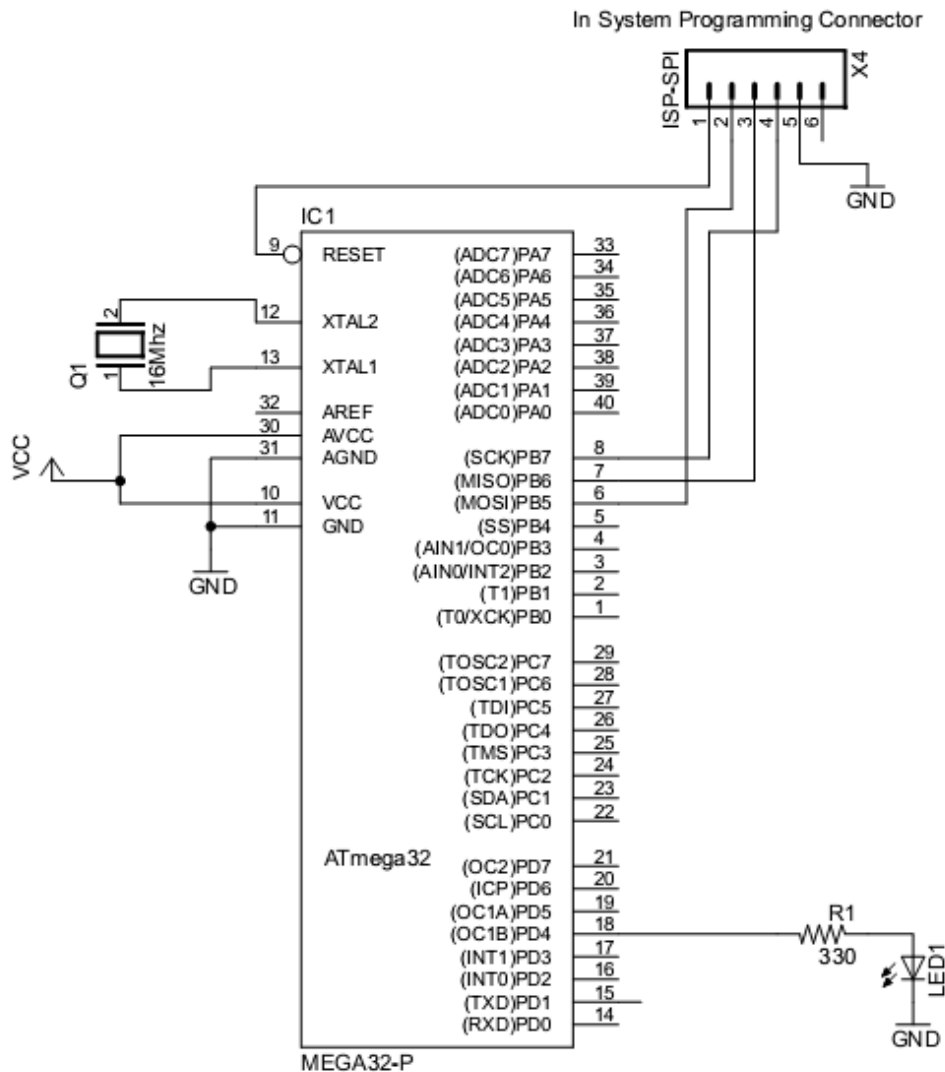# BLINKING LED

Hi friends, this is a beginner's project of blinking an LED connected to AVR microcontroller ATmega32, as shown in the schematic

Schematic for Blinking LED

CC Dharmani

Code:

Following code will make the Led blink every second (appx.) at 16MHz crystal. If you have bought new controller then It will be set at internal 1MHz osc. (by default). So,if you don't change the fuse values to enable external crystal, the LED will blink 16 times slower!!

For programming microcontroller, check my post: "**DIY AVR Programmer"** at www.dharmanitech.com

```c
//*************************************************
//***********   BLINKING LED   *********************
//*************************************************
// Target : ATmega32
// Crystal: 16.000Mhz
// Compiler: ICCAVR
// Author: CC Dharmani, Chennai, India
//*************************************************

#include <iom32v.h>
#include <macros.h>

//------------------------------------------------
void port_init(void)
{
 PORTD = 0x00;
 DDRD  = 0x10;
}

//------------------------------------------------
void delay_ms(int miliSec)  //1 ms delay (appx)for 16MHz crystal
{
  int i,j;

  for(i=0;i<miliSec;i++)
    for(j=0;j<1550;j++)
      {
        asm("nop");
        asm("nop");
      }
}

//------------------------------------------------
//call this routine to initialize all peripherals
void init_devices(void)
{
 //stop errant interrupts until set up
 CLI(); //disable all interrupts
 port_init();
```

```
 MCUCR = 0x00;
 GICR  = 0x00;
 TIMSK = 0x00; //timer interrupt sources
 //SEI(); //re-enable interrupts
 //all peripherals are now initialized
}

//--------------  MAIN FUNCTION -------------
void main()
{

  init_devices();

  while(1)
  {
    PORTD |= 0x10;

    delay_ms(500);

    PORTD &= ~0x10;

    delay_ms(500);
  }

}
//********************  END  ********************
```