```
#define F_CPU 0x8000000UL
#include<avr/io.h>
#include<util/delay.h>

#define CR 0x0D
#define LF 0x0A

unsigned char ans=0x00;
char delet[]={'A','T','+','C','M','G','D','=','1','\0'};

// functions declared
void ready();
void Uart_init();
void at_cmd(char cmd_str[]);
void okey();
void msg(char msg_body[]);
void ok();
void rec_msg();

//*****************************************************************************//

int main()
{
Uart_init();

ready();

_delay_ms(250);
_delay_ms(250);
_delay_ms(250);
_delay_ms(250);

at_cmd("AT");
okey();

at_cmd("AT+CMGF=1");
okey();

_delay_ms(150);


/*
at_cmd("AT+CMGD=1");
ok();
*/
                                          //this will send SMS to 123456789.
at_cmd("AT+CMGS=\"123456789\"");          //.replace 123456789 by a valid number
msg("yay !!  msg recived from sim 300");
ok();


//at_cmd("ATD123456789;");       //this will call 123456789...enter valid number
//ok();


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

```
void ready()                  //ready function indicates Sim card detected..ready
{
unsigned char sim_rdy[]={'C','a','l','l',' ','R','e','a','d','y',CR,LF};
unsigned char i=0,acc=0x00;


 while(i!=12)
  {
     while((UCSRA&0x80)!=0x80);
     acc=UDR;
     if(acc==sim_rdy[i])
     i++;
     else if(i>0)
     i=0;
  }
}


void Uart_init()                    //----uart init function
{
DDRB=0XFF;                         //    PortB direction set
PORTB=0X03;

UBRRH=0x00; UBRRL=0x33;            //    BAUD RATE 9600

UCSRB=0x18;                        //    Rx Tx both enabled
UCSRC=0x86;
}


void at_cmd(char cmd_str[])        //------------at_cmd
{
unsigned char i=0,ACC=0x00;

while(cmd_str[i]!='\0')
  {
    UDR=cmd_str[i];
    while((UCSRA&0x40)!=0x40);
    UCSRA=UCSRA|0x40;


    while((UCSRA&0x80)!=0x80);
    ACC=UDR;
    if(ACC==cmd_str[i])
    i++;
  }

if(cmd_str[i]=='\0')
  {
    UDR=0x0D;
    while((UCSRA&0x40)!=0x40);
    UCSRA=UCSRA|0x40;

    while((UCSRA&0x80)!=0x80);
    ACC=UDR;
```

```
    if(ACC==0x0D)
    ;
//  else
//  PORTB-=0x01;                    //else send total comman again from start
  }

}


void okey()                        //--------------- okey function
{
unsigned char responce[]={0x0d,0x0a,'O','K',CR,LF,0x55};
unsigned char i=0,ACC=0x00;

  while(responce[i]!=0x55)
  {
   while((UCSRA&0x80)!=0x80);
   ACC=UDR;
   if(responce[i]==ACC)
   i++;
  }

  if(responce[i]==0x55)
  PORTB+=0x01;
}


void msg(char msg_body[])          // writes msg body
{

unsigned char i=0,ACC=0x00;
unsigned char responce[]={CR,LF,'>',' ',0x55};

while(responce[i]!=0x55)
  {
   while((UCSRA&0x80)!=0x80);
   ACC=UDR;
   if(responce[i]==ACC)
   i++;
  }

i=0;
while(msg_body[i]!='\0')
  {

    UDR=msg_body[i];
    while((UCSRA&0x40)!=0x40);
    UCSRA=UCSRA|0x40;

    while((UCSRA&0x80)!=0x80);
    ACC=UDR;
    if(ACC==msg_body[i])
    i++;
  }
if(msg_body[i]=='\0')
 {
    UDR=0x1A;
```

```
    while((UCSRA&0x40)!=0x40);
    UCSRA=UCSRA|0x40;
  }
}


void ok()                       //--------------- okey function
{

char responce[]={'O','K',0x0d,0x0a,0x55};
unsigned char i=0,ACC=0x00;

  while(responce[i]!=0x55)
  {
   while((UCSRA&0x80)!=0x80);
   ACC=UDR;
   if(responce[i]==ACC)
   i++;
  }

PORTB+=0x01;              //----indicates code snippet executed successfully

}

void rec_msg()   //function detects SMS is received and also records SMS number.
{
                      // this SMS number can be further used to delete that SMS

char responce[]="+CMTI:\"SM\",";

char msg_no1=0x00;
unsigned char i=0,ACC=0x00;

  while(responce[i]!='\0')
  {
    while((UCSRA&0x80)!=0x80);
    ACC=UDR;
    if(responce[i]==ACC)
    i++;
  }

PORTB+=0x01;                    //indicates code snippet executed successfully

while((UCSRA&0x80)!=0x80);
   msg_no1=UDR;

up:
while((UCSRA&0x80)!=0x80);
   ACC=UDR;
 _delay_ms(5);
if((UCSRA&0x80)==0x80)
goto up;

delet[8]=msg_no1;
}
```