//C Programming of PORT0 as output to send 32-bit data using FIOPIN register

```
#include <stdio.h>
#include "lpc17xx.h"

 uint32_t x=0x12345678,y=0x111111111,z;

  int main(void)
  {
        z = x + y;
 LPC_GPIO0->FIODIR= 0xffffffff;  // Port 0 as output
 while(1)
        {
        LPC_GPIO0->FIOPIN = z; // send the value of z through port0 using FIOPIN register
        }
        }
```

//C Programming of P0.0 as input and P1.7-P1.0 as output, monitor the status of the switch and send different data based on the switch status using FIOPIN register

```
#include <stdio.h>
#include "lpc17xx.h"

 uint32_t x;

  int main(void)
   {

  LPC_GPIO0->FIODIR     = 0xfffffffe; //or LPC_GPIO0->FIODIR &=~(1<<0); p0.0 as input
  LPC_GPIO1->FIODIR = 0x000000ff; //or LPC_GPIO1->FIODIR |=(0xff<<0); p1.7-p1.0 as output

            while(1)
            {
             x=LPC_GPIO0->FIOPIN; // read the status of the switch or if(!(LPC_GPIO0->FIOPIN & (1<<0));
             if(x==1)// check switch status
             {
             LPC_GPIO1->FIOPIN=0x0f; // if switch is closed, send 0x0f
             }
             else
             {
               LPC_GPIO1->FIOPIN=0xf0; // if switch is open, send 0xf0
              }
            }
           }
```

//C Programming of P0.0 as input and P1.7-P1.0 as output, monitor the status of the switch and send different data based on the switch status using SWITCH statement

```
#include <stdio.h>
#include "lpc17xx.h"

 uint32_t x;

  int main(void)
  {

 LPC_GPIO0->FIODIR     = 0xfffffffe; // P0.0 as input
 LPC_GPIO1->FIODIR = 0x000000ff; // P1.7-P1.0 as output
           while(1)
           {
            x=LPC_GPIO0->FIOPIN;
            switch(x)
            {
            case (0):
            LPC_GPIO1->FIOPIN=0xf0;
            break;

            case (1):
            LPC_GPIO1->FIOPIN=0x0f;
            break;
           }
           }
         }
```

//C Programming of P0.0 and P0.1 as input pins and P1.7-P1.0 as output, monitor the status of the switch and based on the switch status using SWITCH statement, Make high some pins

```
#include <stdio.h>
#include "lpc17xx.h"
uint32_t value;
int main (void)
{
LPC_GPIO0->FIODIR = 0xffffffff; /* LEDs on PORT0 are output */
LPC_GPIO1->FIODIR &=~(3<<0) ; // p1.1-p1.0 as input

 while(1)
 {

   value = ((LPC_GPIO1->FIOPIN & (3<<0))>>0) ;// read the switch status

            switch(value)
            {
            case (0):
            LPC_GPIO0->FIOSET =(1<<0);
            break;

            case (1):
            LPC_GPIO0->FIOSET =(1<<8);
            break;

            case (2):
            LPC_GPIO0->FIOSET =(1<<16);
            break;

            case (3):
            LPC_GPIO0->FIOSET =(1<<24);
            break;

           }
}
}
```

//C Programming to blink LEDs on PORT0 using FIOSET and FIOCLR registers

```
#include "lpc17xx.h"

void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0xffffffff;//port0 as ouput

  while(1)
  {
  LPC_GPIO0->FIOSET = 0xffffffff;//port0 status HIGH
  delay(100000);
  LPC_GPIO0->FIOCLR = 0xffffffff;//port0 status LOW
  delay(100000);

  }
}

  void delay(uint32_t i)
            {
            uint32_t x;
             for(x=0;x<=i;x++);
             }
```

//C Programming to blink LEDs on PORT0 using FIOPIN registers

```
#include "lpc17xx.h"

void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0xffffffff;//port0 as ouput

  while(1)
  {
  LPC_GPIO0->FIOPIN ^= 0xffffffff;//Toggle port0
  delay(100000);
  }
}

  void delay(uint32_t i)
            {
            uint32_t x;
             for(x=0;x<=i;x++);
             }
```

//C Programming to blink particular LEDs on PORT0 using FIOSET and FIOCLR registers

```
#include <stdio.h>
#include "lpc17xx.h"

void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0x01010101;//p0.24,p0.16,p0.8,p0.0 as output pins

  while(1)
  {
  LPC_GPIO0->FIOSET = 0x01010101;//LEDs on p0.24,p0.16,p0.8,p0.0 are ON
            delay(100000);
  LPC_GPIO0->FIOCLR = 0x01010101;//LEDs on p0.24,p0.16,p0.8,p0.0 are OFF
            delay(100000);
  }
}

   void delay(uint32_t i)
            {
            uint32_t x;
             for(x=0;x<=i;x++);
             }
```

//C Programming to blink particular LEDs on PORT0 using FIOPIN registers

```
#include <stdio.h>
#include "lpc17xx.h"

void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR |= (1<<24)|(1<<16)|(1<<8)|(1<<0);//p0.24,p0.16,p0.8,p0.0 as output pins

  while(1)
  {
  LPC_GPIO0->FIOPIN ^= (1<<24)|(1<<16)|(1<<8)|(1<<0);//LEDs on p0.24,p0.16,p0.8,p0.0 Toggles
  delay(300000);

  }
}

   void delay(uint32_t i)
            {
            uint32_t x;
             for(x=0;x<=i;x++);
             }
```

```
//C Programming to blink particular LEDs on PORT0 using FIOPIN registers based on status of the
  switch


#include <stdio.h>
#include "lpc17xx.h"
 uint32_t x;
void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0x80000001;// or LPC_GPIO0->FIODIR |= (1<<31)|(1<<0);
LPC_GPIO1->FIODIR = 0xfffffffe; // or LPC_GPIO1->FIODIR &= ~(1<<0);

  while(1)
  {
  x=LPC_GPIO1->FIOPIN; // read the switch status
 if(x==0)       // if switch is open, blink LED on P0.0
           {
LPC_GPIO0->FIOPIN ^=1<<0;
LPC_GPIO0->FIOPIN |=1<<31;
           delay(300000);
                     }
           Else         // if switch is closed, blink LED on P0.31
           {
LPC_GPIO0->FIOPIN ^=1<<31;
LPC_GPIO0->FIOPIN |=1<<0;
            delay(300000);
                     }

           }
           }

  void delay(uint32_t i)
          {
          uint32_t x;
           for (x=0;x<=i;x++);
           }
```

//C Programming to alternate LEDs blinking on PORT0 using FIOPIN registers

```
#include <stdio.h>
#include "lpc17xx.h"

void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0xffffffff;// PORT0 as output

  while(1)
  {
  LPC_GPIO0->FIOPIN = 0x55555555; //0101 0101 0101 0101 0101 0101 0101 0101
  delay(300000);

  LPC_GPIO0->FIOPIN = 0xaaaaaaaa; //1010 1010 1010 1010 1010 1010 1010 0101
  delay(300000);
  }
}

       void delay(uint32_t i)
           {
           uint32_t x;
            for(x=0;x<=i;x++);
            }
```

//C Programming to demonstrate LEDs walking on PORT0 using FIOPIN registers

```
#include <stdio.h>
#include "lpc17xx.h"
 uint32_t x,y,a,b;
void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR |= 0xffffffff;// LEDs on PORT0 are output

  while(1)
  {
  for(a=0x80000000;a>0x00000001;a>>=1)
  {

  LPC_GPIO0->FIOPIN= a;
  delay(300000);
  }
  for(b=0x00000001;b<0x80000000;b<<=1)
  {
  LPC_GPIO0->FIOPIN= b;
  delay(300000);
  }
  }
}

   void delay(uint32_t i)
            {
            uint32_t x;
             for (x=0;x<=i;x++);
             }
```

//C Programming to demonstrate up-counting (0x00 to 0xff) on PORT0 using FIOPIN registers

```
#include <stdio.h>
#include "lpc17xx.h"
 uint32_t x,y,a,b;
void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0x000000ff;          // LEDs on PORT0 are output

  while(1)
  {
           for(a=0x00000000;a<=0x000000ff;a++)
           {
LPC_GPIO0->FIOPIN=a;
             delay(300000);
            }
           }
           }

  void delay(uint32_t i)
           {
           uint32_t x;
            for (x=0;x<=i;x++);
            }
```

//C Programming to demonstrate down-counting (0xff to 0x00) on PORT0 using FIOPIN registers

```
#include <stdio.h>
#include "lpc17xx.h"
 uint32_t x,y,a,b;
void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0x000000ff;          // LEDs on PORT0 are output
  while(1)
  {
           for(a=0x000000ff;a>=0x00000000;a--)
           {
LPC_GPIO0->FIOPIN=a;
             delay(300000);
             }
            }
            }

   void delay(uint32_t i)
           {
           uint32_t x;
            for (x=0;x<=i;x++);
            }
```

//C Programming to demonstrate up/down-counting (0x00 to 0xff to 0x00) on PORT0 using FIOPIN registers

```
#include <stdio.h>
#include "lpc17xx.h"
 uint32_t x,y,a,b;
void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0x000000ff;          //LEDs on PORT0 are output

  while(1)
  {
           for(a=0x00000000;a<=0x000000ff;a++)
           {
LPC_GPIO0->FIOPIN=a;
             delay(300000);
             }

           for(b=0x000000ff;a>=0x00000000;a--)
           {
LPC_GPIO0->FIOPIN=b;
             delay(300000);
             }
            }
            }

  void delay(uint32_t i)
           {
           uint32_t x;
            for (x=0;x<=i;x++);
            }
```

//C Programming to demonstrate BCD up-counting (00 to 99) on PORT0 using FIOPIN registers

```
#include <stdio.h>
#include "lpc17xx.h"
uint32_t x,y,a,b;
void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0x000000ff;// LEDs on PORT0 are output


          for(a=0;a<100;a++)
          {
          b=(((a/10)<<4)|(a%10)); //  convert hexadecimal into decimal
LPC_GPIO0->FIOPIN=b;
            delay(300000);
            }
             while(1);

          }


  void delay(uint32_t i)
          {
          uint32_t x;
           for (x=0;x<=i;x++);
           }
```

//C Programming to demonstrate RING operation on PORT0 using FIOPIN registers

```
#include <stdio.h>
#include "lpc17xx.h"
 uint32_t x,y,a,b;
void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0xffffffff;          // LEDs on PORT0 are output x=0x80000000;

  while(1)
  {
  for(a=0x80000000;a>=0x00000001;a>>=1)
  {

  LPC_GPIO0->FIOPIN= a;
  delay(300000);
  }
  }
}

   void delay(uint32_t i)
            {
            uint32_t x;
             for (x=0;x<=i;x++);
             }
```

//C Programming to demonstrate TWISTED RING operation on PORT0 using FIOPIN registers

```
#include <stdio.h>
#include "lpc17xx.h"
 uint32_t x,y;
void delay(uint32_t);

int main (void)
{

LPC_GPIO0->FIODIR = 0xffffffff;    / LEDs on PORT0 are output
x=0x80000000;

  while(1)
  {
  LPC_GPIO0->FIOPIN= x;
  delay(300000);
  x=x>>1;
  x=x|0x80000000;
  LPC_GPIO0->FIOPIN= x;
  while(x==0xffffffff)
  {
     LPC_GPIO0->FIOPIN= x;
              delay(300000);
   for(y=0;y<=32;y++)
               {
               x=x>>1;
               LPC_GPIO0->FIOPIN= x;
               delay(300000);
  }
  }
}
  }

   void delay(uint32_t i)
            {
            uint32_t x;
             for (x=0;x<=i;x++);
             }
```