```c
1   #include "Pulse_init.h"
2   #include "TM4C123GH6PM.h"
3   #include <stdio.h>
4
5   extern void OutStr(char*);
6   void print_number(int number);
7   int x,edge=0;
8   int edge1,edge2,edge3;
9   int period,pulse_width,duty_cycle,new_number;
10  char msg1[100],msg2[100];
11
12  void print_number(int number)
13  {
14      int i=0,j=0;
15      while(number){
16        new_number=number/10;
17        msg1[i]=number-(new_number*10)+48;
18        number=new_number;
19        i++;
20      }
21      for(i=i-1;i>=0;i--){
22      msg2[j]=msg1[i];
23      j++;
24      }
25
26      msg2[j]='\r';
27      msg2[j+1]='\4';
28      OutStr(msg2);
29  }
30    int main(){
31      pulse_init();
32      detect_init();
33      while(1){
34
35        x=TIMER1->RIS&4;  //Seperating CAERIS bit
36        if(x==4){
37          if(edge==0)
38          {
39            edge1=TIMER1->TAR;  //Get timer register value
40            edge=edge+1;
41            TIMER1->ICR |=0x04;//Clear ICR
42            continue;
43          }
44          else if(edge==1)
45          {
46            edge2=TIMER1->TAR;  //Get timer register value
47            edge=edge+1;
48            TIMER1->ICR |=0x04;//Clear ICR
49            continue;
50          }
51          else if(edge==2)
52          {
53            edge3=TIMER1->TAR;//Get timer register value
54            edge=edge+1;
55            TIMER1->ICR |=0x04; //Clear ICR
56            continue;
57          }
58          else
59          {
60            period=edge1-edge3; //PERIOD (FIRST EDGE - THIRD EDGE) [IN CYCLE UNIT, NOT IN ns]
61            pulse_width=edge1-edge2;//PULSE WIDTH (FIRST EDGE- SECOND EDGE) [IN CYCLE UNIT, NOT IN ns]
62            duty_cycle=(pulse_width*100)/period; //Pulse Width*100 / PERIOD = DUTY CYCLE
63            OutStr("Duty Cycle (%): \r\4");
64            print_number(duty_cycle);
65            OutStr("Pulse Width (us): \r\4");
66            print_number(pulse_width/16);
67            OutStr("Period (us): \r\4");
68            print_number(period/16);
69          }
70              while(1){}
71
72          }
73
74        }
75
76  }
```