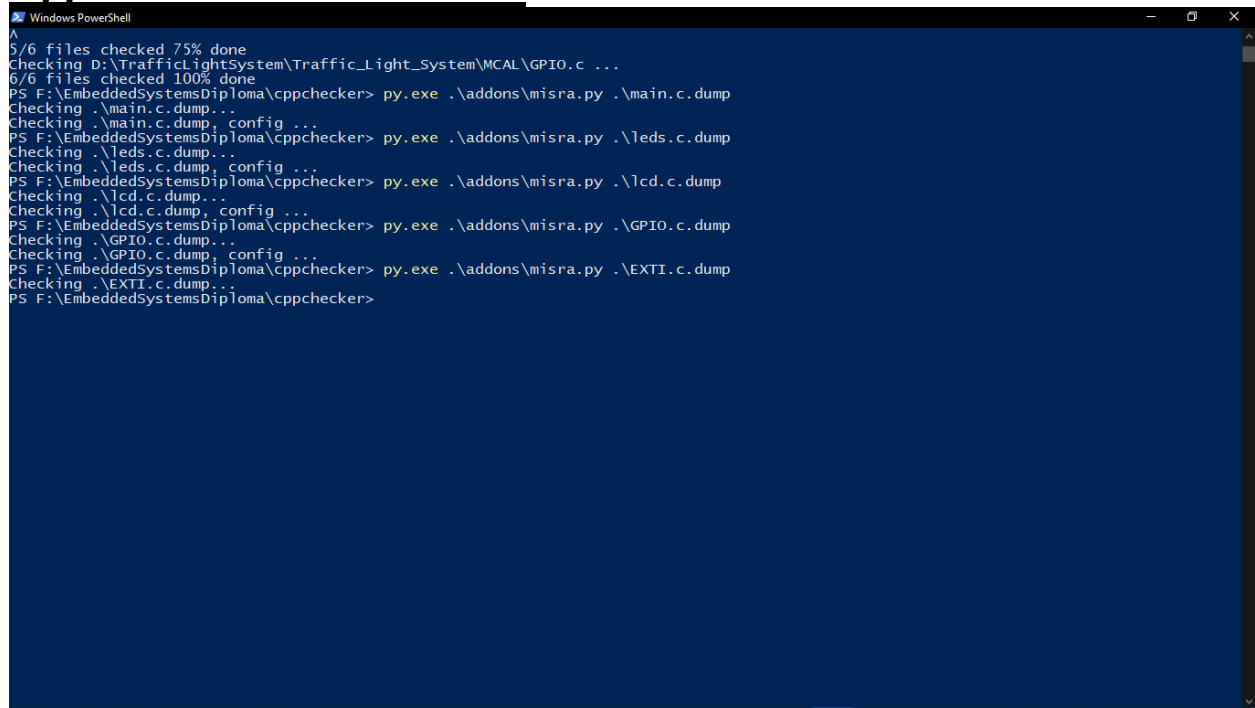


# Traffic Light System(Misra-2012)

After checking our application using cppchecker tool and modifying the code to achieve the MISRA 2012 rules, we can say that our application has zero MISRA 2012 violations as you can see the screenshot, or you can see all the modifications at the [GitHub repository](#).

## Cppchecker tool screenshot:



```
Windows PowerShell
A
5/6 files checked 75% done
Checking D:\TrafficLightSystem\Traffic_Light_System\MCAL\GPIO.c ...
6/6 files checked 100% done
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\main.c.dump
Checking .\main.c.dump...
Checking .\main.c.dump; config ...
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\leds.c.dump
Checking .\leds.c.dump...
Checking .\leds.c.dump; config ...
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\lcd.c.dump
Checking .\lcd.c.dump...
Checking .\lcd.c.dump; config ...
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\GPIO.c.dump
Checking .\GPIO.c.dump...
Checking .\GPIO.c.dump; config ...
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\EXTI.c.dump
Checking .\EXTI.c.dump...
PS F:\EmbeddedSystemsDiploma\cppchecker>
```

## Samples from the code modifications:

	↑ .....	@@ -13,8 +13,6 @@
13	13	<code>#include "EXTI.h"</code>
14	14	
15	15	
16		<code>- #define DELAY_IN_SEC(s) 4*s</code>
17		<code>-</code>
18	16	<code>int skip_delay = 0 ;</code>
19	17	<code>int Cars_mode = 0;</code>
20	18	<code>int button_pressed = 0 ;</code>
	↑ ↓	@@ -24,6 +22,9 @@ void init(void);
24	22	<code>void Yellow_Blink(void);</code>
25	23	<code>void Setflag(void);</code>
26	24	
	25	<code>+ uint8 DELAY_IN_SEC(uint8 s){</code>
	26	<code>+     return 4*s;</code>
	27	<code>+ }</code>
27	28	<code>+ int main(void){</code>
28	29	
29	30	
	↑ ↓	@@ -33,26 +34,26 @@ int main(void){
33	34	<code>{</code>
34	35	<code>    skip_delay = 0 ;</code>
35	36	
36		<code>-     if(button_pressed)</code>
37		<code>+     if(button_pressed==1)</code>
37	38	<code>{</code>
38	39	<code>    App();</code>
39	40	<code>}</code>
40	41	

		letGreen_ON();
63	64	@@ -63,27 +64,34 @@ int main(void){
64	65	}
65	66	
66	-	
67	-	for(int i=0 ; i<DELAY_IN_SEC(5) ; i++){
67	+	uint8 i;
68	+	for( i=0 ; i<DELAY_IN_SEC(5) ; i++){
68	69	if(skip_delay    button_pressed)
70	+	{
69	71	break ;
70	-	_delay_ms(250);
72	+	}
73	+	else
74	+	{
75	+	_delay_ms(250);
76	+	
77	+	}
71	78	}
72	79	}
73	80	}
74	81	void App(void){
75	82	
76	83	
77	-	if(isGreen_ON()){
84	+	if(isGreen_ON()==1){
78	85	letGreen_OFF();
79	86	Yellow_Blink();
80	87	letYellow_OFF();