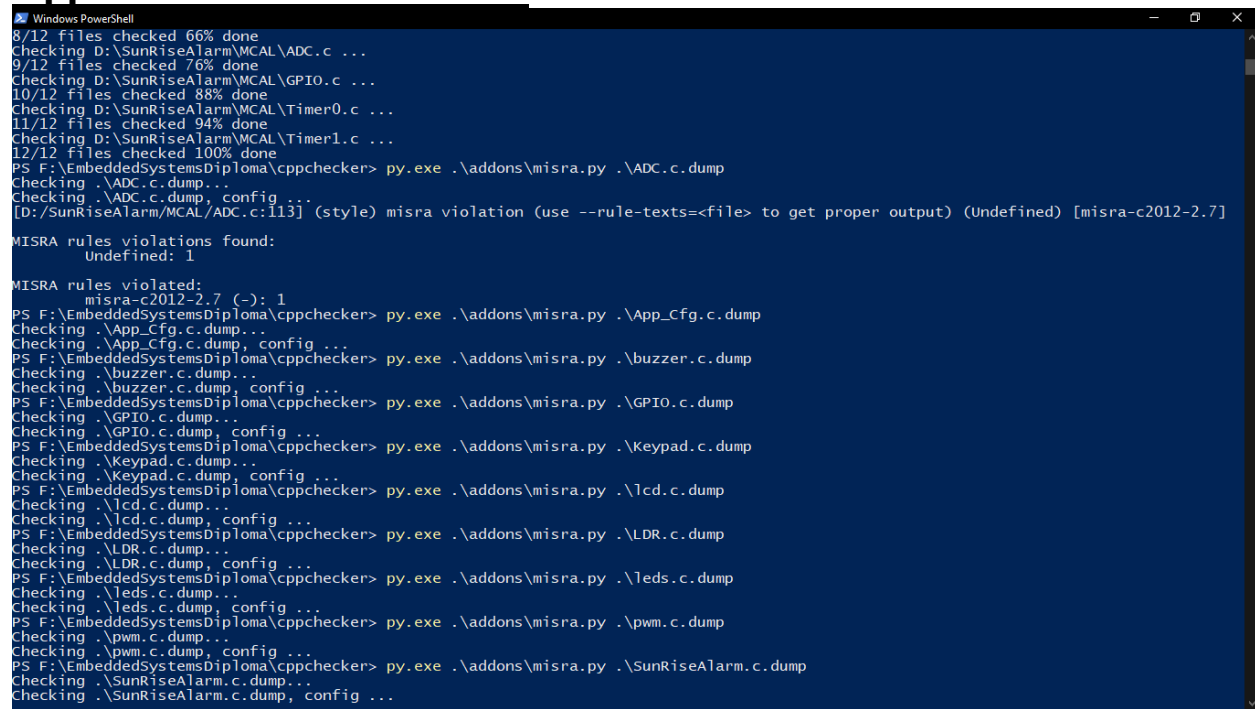


# SUN RISE ALARM (Misra-2012)

After checking our application using cppchecker tool and modifying the code to achieve the MISRA 2012 rules, we can say that our application has only seven MISRA 2012 violations as you can see from the screenshot.

## Cppchecker tool screenshot:



```
Windows PowerShell
8/12 files checked 66% done
Checking D:\SunRiseAlarm\MCAL\ADC.c ...
9/12 files checked 76% done
Checking D:\SunRiseAlarm\MCAL\GPIO.c ...
10/12 files checked 88% done
Checking D:\SunRiseAlarm\MCAL\Timer0.c ...
11/12 files checked 94% done
Checking D:\SunRiseAlarm\MCAL\Timer1.c ...
12/12 files checked 100% done
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\ADC.c.dump
Checking .\ADC.c.dump...
[D:\SunRiseAlarm\MCAL\ADC.c:113] (style) misra violation (use --rule-texts=<file> to get proper output) (Undefined) [misra-c2012-2.7]

MISRA rules violations found:
Undefined: 1

MISRA rules violated:
misra-c2012-2.7 (-): 1
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\App_Cfg.c.dump
Checking .\App_Cfg.c.dump...
Checking .\App_Cfg.c.dump, config ...
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\buzzer.c.dump
Checking .\buzzer.c.dump...
Checking .\buzzer.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 .\Keypad.c.dump
Checking .\Keypad.c.dump...
Checking .\Keypad.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 .\LDR.c.dump
Checking .\LDR.c.dump...
Checking .\LDR.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 .\pwm.c.dump
Checking .\pwm.c.dump...
Checking .\pwm.c.dump, config ...
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\SunRiseAlarm.c.dump
Checking .\SunRiseAlarm.c.dump...
Checking .\SunRiseAlarm.c.dump, config ...
```

```
Windows PowerShell
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\Timer0.c.dump
Checking .\Timer0.c.dump...
Checking .\Timer0.c.dump; config ...
[D:/SunRiseAlarm/MCAL/Timer0.c:13] (style) misra violation (use --rule-texts=<file> to get proper output) (Undefined) [misra-c2012-2.7]
]
[D:/SunRiseAlarm/MCAL/Timer0.c:21] (style) misra violation (use --rule-texts=<file> to get proper output) (Undefined) [misra-c2012-2.7]
]
MISRA rules violations found:
    Undefined: 2
MISRA rules violated:
    misra-c2012-2.7 (-): 2
PS F:\EmbeddedSystemsDiploma\cppchecker> py.exe .\addons\misra.py .\Timer1.c.dump
Checking .\Timer1.c.dump...
Checking .\Timer1.c.dump; config ...
[D:/SunRiseAlarm/MCAL/Timer1.c:13] (style) misra violation (use --rule-texts=<file> to get proper output) (Undefined) [misra-c2012-2.7]
]
[D:/SunRiseAlarm/MCAL/Timer1.c:21] (style) misra violation (use --rule-texts=<file> to get proper output) (Undefined) [misra-c2012-2.7]
]
[D:/SunRiseAlarm/MCAL/Timer1.h:11] (style) misra violation (use --rule-texts=<file> to get proper output) (Undefined) [misra-c2012-20.2]
]
[D:/SunRiseAlarm/MCAL/Timer1.h:12] (style) misra violation (use --rule-texts=<file> to get proper output) (Undefined) [misra-c2012-20.2]
]
MISRA rules violations found:
    Undefined: 4
MISRA rules violated:
    misra-c2012-2.7 (-): 2
    misra-c2012-20.2 (-): 2
PS F:\EmbeddedSystemsDiploma\cppchecker>
```

Rule-number	Number of violations	Rule-Description	Our-violations	Classification
R.2.7	5 times	There should be no unused parameters in functions	Because of using the ISR(INT-vect){ }	Advisory not mandatory
R.20.2	2 times	The ', " or \ characters and the /* or // character sequences shall not occur in a header file name	Because of using #include <avr\interrupt.h>  #include <avr\io.h>	Required but not mandatory