

Erriez memory usage library for Arduino  
1.0.0

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# Chapter 1

## Memory usage library for Arduino

This Arduino library prints memory usage on the Serial port.

### Features

This library provides:

- Print memory usage on the serial console
- Get stack and heap size
- Get .data and .bss sections size

### Examples

Arduino IDE | Examples | Erriez Memory Usage:

- [PrintMemoryUsage](#)

### Documentation

- [Doxygen online HTML](#)
- [Doxygen PDF](#)

### Print memory usage on serial port

```
1 {c++}
2 void setup()
3 {
4   // Initialize serial port
5   Serial.begin(115200);
6
7   // Print memory usage
8   printMemoryUsage();
9 }
```

#### Output serial port Arduino Uno

```
1 {c++}
2 SRAM size:  2048 Bytes
3 .data size: 22 Bytes
4 .bss size:  170 Bytes
5 Stack size: 2 Bytes
6 Heap size:  0 Bytes
7 Free mem:   1854 Bytes
```

### Get RAM size

Get total on-chip SRAM size in Bytes:

```
1 {c++}
2 unsigned int ramSize = getRamSize();
```

### Get free memory

Get free memory size which can be allocated between stack and heap:

```
1 {c++}
2 unsigned int freeMemSize = getFreeMemSize();
```

### ### Get stack size

```
1 {c++}
2 unsigned int stackSize = getStackSize();
```

### ### Get heap size

```
1 {c++}
2 unsigned int heapSize = getHeapSize();
```

### ### Get .data section size

```
1 {c++}
2 unsigned int dataSize = getDataSectionSize();
```

### ### Get .bss section size

```
1 {c++}
2 unsigned int bssSize = getBssSectionSize();
```

## Library installation

Please refer to the [Wiki](#) page.

## Other Arduino Libraries and Sketches from Erriez

- [Erriez Libraries and Sketches](#)

## Chapter 2

# File Index

### 2.1 File List

Here is a list of all documented files with brief descriptions:

<a href="#">MemoryUsage.cpp</a>	
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## Chapter 3

# File Documentation

### 3.1 MemoryUsage.cpp File Reference

Memory usage library for Arduino by Erriez.

```
#include <Arduino.h>
#include "MemoryUsage.h"
```

#### Functions

- unsigned int [getRamSize](#) ()  
*Get RAM size in Bytes.*
- unsigned int [getDataSectionSize](#) ()  
*Get data section size in Bytes.*
- unsigned int [getBssSectionSize](#) ()  
*Get BSS section size in Bytes.*
- unsigned int [getStackSize](#) ()  
*Get stack size in Bytes.*
- unsigned int [getHeapSize](#) ()  
*Get heap size in Bytes.*
- unsigned int [getFreeMemSize](#) ()  
*Get free memory size in Bytes.*
- void [printMemoryUsage](#) ()  
*Print memory usage on serial port.*

#### 3.1.1 Detailed Description

Memory usage library for Arduino by Erriez.

Source: <https://github.com/Erriez/ErriezMemoryUsage> Documentation: <https://erriez.github.io/ErriezMemoryUsage> ↩

### 3.1.2 Function Documentation

#### 3.1.2.1 unsigned int getBssSectionSize ( )

Get BSS section size in Bytes.

##### Returns

BSS section size.

Definition at line 61 of file MemoryUsage.cpp.

#### 3.1.2.2 unsigned int getDataSectionSize ( )

Get data section size in Bytes.

##### Returns

Data section size.

Definition at line 49 of file MemoryUsage.cpp.

#### 3.1.2.3 unsigned int getFreeMemSize ( )

Get free memory size in Bytes.

##### Returns

Free memory size.

Definition at line 98 of file MemoryUsage.cpp.

#### 3.1.2.4 unsigned int getHeapSize ( )

Get heap size in Bytes.

##### Returns

Heap size.

Definition at line 82 of file MemoryUsage.cpp.

#### 3.1.2.5 unsigned int getRamSize ( )

Get RAM size in Bytes.

##### Returns

RAMEND - RAMSTART + 1.

Definition at line 40 of file MemoryUsage.cpp.

### 3.1.2.6 unsigned int getStackSize ( )

Get stack size in Bytes.

#### Returns

Stack size.

Definition at line 73 of file MemoryUsage.cpp.

## 3.2 MemoryUsage.h File Reference

Memory usage library for Arduino by Erriez.

### Functions

- unsigned int [getRamSize](#) ()  
*Get RAM size in Bytes.*
- unsigned int [getDataSectionSize](#) ()  
*Get data section size in Bytes.*
- unsigned int [getBssSectionSize](#) ()  
*Get BSS section size in Bytes.*
- unsigned int [getStackSize](#) ()  
*Get stack size in Bytes.*
- unsigned int [getHeapSize](#) ()  
*Get heap size in Bytes.*
- unsigned int [getFreeMemSize](#) ()  
*Get free memory size in Bytes.*
- void [printMemoryUsage](#) ()  
*Print memory usage on serial port.*

### 3.2.1 Detailed Description

Memory usage library for Arduino by Erriez.

Source: <https://github.com/Erriez/ErriezMemoryUsage> Documentation: <https://erriez.github.io/ErriezMemoryUsage>

### 3.2.2 Function Documentation

#### 3.2.2.1 unsigned int getBssSectionSize ( )

Get BSS section size in Bytes.

#### Returns

BSS section size.

Definition at line 61 of file MemoryUsage.cpp.

#### 3.2.2.2 unsigned int getDataSectionSize ( )

Get data section size in Bytes.

##### Returns

Data section size.

Definition at line 49 of file MemoryUsage.cpp.

#### 3.2.2.3 unsigned int getFreeMemSize ( )

Get free memory size in Bytes.

##### Returns

Free memory size.

Definition at line 98 of file MemoryUsage.cpp.

#### 3.2.2.4 unsigned int getHeapSize ( )

Get heap size in Bytes.

##### Returns

Heap size.

Definition at line 82 of file MemoryUsage.cpp.

#### 3.2.2.5 unsigned int getRamSize ( )

Get RAM size in Bytes.

##### Returns

RAMEND - RAMSTART + 1.

Definition at line 40 of file MemoryUsage.cpp.

#### 3.2.2.6 unsigned int getStackSize ( )

Get stack size in Bytes.

##### Returns

Stack size.

Definition at line 73 of file MemoryUsage.cpp.

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