

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:

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Chapter 3

File Documentation

3.1 ErriezMemoryUsage.cpp File Reference

Memory usage library for Arduino by Erriez.

```
#include <Arduino.h>
#include <ErriezMemoryUsage.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 ErriezMemoryUsage.cpp.

3.1.2.2 unsigned int getDataSectionSize ()

Get data section size in Bytes.

Returns

Data section size.

Definition at line 49 of file ErriezMemoryUsage.cpp.

3.1.2.3 unsigned int getFreeMemSize ()

Get free memory size in Bytes.

Returns

Free memory size.

Definition at line 98 of file ErriezMemoryUsage.cpp.

3.1.2.4 unsigned int getHeapSize ()

Get heap size in Bytes.

Returns

Heap size.

Definition at line 82 of file ErriezMemoryUsage.cpp.

3.1.2.5 unsigned int getRamSize ()

Get RAM size in Bytes.

Returns

RAMEND - RAMSTART + 1.

Definition at line 40 of file ErriezMemoryUsage.cpp.

3.1.2.6 unsigned int getStackSize ()

Get stack size in Bytes.

Returns

Stack size.

Definition at line 73 of file ErriezMemoryUsage.cpp.

3.2 ErriezMemoryUsage.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 ErriezMemoryUsage.cpp.

3.2.2.2 unsigned int getDataSectionSize ()

Get data section size in Bytes.

Returns

Data section size.

Definition at line 49 of file ErriezMemoryUsage.cpp.

3.2.2.3 unsigned int getFreeMemSize ()

Get free memory size in Bytes.

Returns

Free memory size.

Definition at line 98 of file ErriezMemoryUsage.cpp.

3.2.2.4 unsigned int getHeapSize ()

Get heap size in Bytes.

Returns

Heap size.

Definition at line 82 of file ErriezMemoryUsage.cpp.

3.2.2.5 unsigned int getRamSize ()

Get RAM size in Bytes.

Returns

RAMEND - RAMSTART + 1.

Definition at line 40 of file ErriezMemoryUsage.cpp.

3.2.2.6 unsigned int getStackSize ()

Get stack size in Bytes.

Returns

Stack size.

Definition at line 73 of file ErriezMemoryUsage.cpp.

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