

C8E

0.1

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Chapter 1

File Index

1.1 File List

Here is a list of all files with brief descriptions:

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Chapter 2

File Documentation

2.1 src/C8E.c File Reference

```
#include "Logs.h"  
#include "Memory.h"
```

Functions

- int [main](#) ()

2.1.1 Function Documentation

2.1.1.1 int main ()

Definition at line 4 of file C8E.c.

2.2 src/CPU.h File Reference

2.2.1 Detailed Description

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Definition in file [CPU.h](#).

2.3 src/Logs.c File Reference

```
#include "Logs.h"
```

Functions

- int [setupLogs](#) (unsigned char debugLevel, char *const outputFilename)
Setup output log file and debug level to values passed in paramaters. Moreover, a file descriptor is created and initialized.
- int [closeLogs](#) ()
Close output log file descriptor and flush file buffer.
- void [addEntry](#) (unsigned char level, const char *const message)
Add new entry in output log file if [level] is below or equal to debug level.

2.3.1 Function Documentation

2.3.1.1 void addEntry (unsigned char *level*, const char *const *message*)

Add new entry in output log file if [level] is below or equal to debug level.

Definition at line 49 of file Logs.c.

2.3.1.2 int closeLogs ()

Close output log file descriptor and flush file buffer.

Returns

0 if success, 0 otherwise.

Definition at line 44 of file Logs.c.

2.3.1.3 int setupLogs (unsigned char *debugLevel*, char *const *outputFilename*)

Setup output log file and debug level to values passed in paramaters. Moreover, a file descriptor is created and initialized.

Returns

0 if success, 0 otherwise.

Definition at line 33 of file Logs.c.

2.4 src/Logs.h File Reference

```
#include <stdio.h>
```

Defines

- #define `DEFAULT_DEBUG_LEVEL` 1
Specifies the default debug level : Warning.
- #define `DEFAULT_OUTPUT_FILENAME` "DEBUG_LOGS"
Specifies the default output filename, i.e. the file where log will be written.

Enumerations

- enum `DEBUG_LEVELS` { `ERROR` = 0, `WARNING` = 1, `DRAWING` = 2, `DISASSEMBLING` = 3 }

Functions

- int `setupLogs` (unsigned char debugLevel, char *const outputFilename)
Setup output log file and debug level to values passed in parameters. Moreover, a file descriptor is created and initialized.
- int `closeLogs` ()
Close output log file descriptor and flush file buffer.
- void `addEntry` (unsigned char level, const char *const message)
Add new entry in output log file if [level] is below or equal to debug level.

2.4.1 Define Documentation

2.4.1.1 #define `DEFAULT_DEBUG_LEVEL` 1

Specifies the default debug level : Warning.

Definition at line 23 of file Logs.h.

2.4.1.2 #define `DEFAULT_OUTPUT_FILENAME` "DEBUG_LOGS"

Specifies the default output filename, i.e. the file where log will be written.

Definition at line 26 of file Logs.h.

2.4.2 Enumeration Type Documentation

2.4.2.1 enum DEBUG_LEVELS

Enumerator:

ERROR

WARNING

DRAWING

DISASSEMBLING

Definition at line 20 of file Logs.h.

2.4.3 Function Documentation

2.4.3.1 void addEntry (unsigned char *level*, const char *const *message*)

Add new entry in output log file if [level] is below or equal to debug level.

Definition at line 49 of file Logs.c.

2.4.3.2 int closeLogs ()

Close output log file descriptor and flush file buffer.

Returns

0 if success, 0 otherwise.

Definition at line 44 of file Logs.c.

2.4.3.3 int setupLogs (unsigned char *debugLevel*, char *const *outputFilename*)

Setup output log file and debug level to values passed in paramaters. Moreover, a file descriptor is created and initialized.

Returns

0 if success, 0 otherwise.

Definition at line 33 of file Logs.c.

2.5 src/Memory.c File Reference

Define all functions, variables and defines for memory management.

```
#include "Memory.h"
#include <stdlib.h>
#include <string.h>
```

Functions

- int [setupMemory](#) ()
Initialize memory to 0.
- void [cleanupMemory](#) ()
Cleanup all memory.
- int [write](#) (unsigned short addr, char *const data, unsigned int len)
write [len] bytes from [data] into memory at adress [addr]
- int [read](#) (short addr, unsigned short len, char *const buffer)
Read [len] bytes of data from address [addr] to buffer.

2.5.1 Detailed Description

Define all functions, variables and defines for memory management.

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Author

Maxime Gaudin

Definition in file [Memory.c](#).

2.5.2 Function Documentation

2.5.2.1 void cleanupMemory ()

Cleanup all memory.

Definition at line 35 of file Memory.c.

2.5.2.2 int read (short *addr*, unsigned short *len*, char *const *buffer*)

Read [*len*] bytes of data from address [*addr*] to buffer.

Parameters

in	<i>addr</i>	Address where read begins
in	<i>len</i>	Number of bytes read
out	<i>buffer</i>	Pointer to the data buffer

Returns

0 if success, 1 otherwise.

Definition at line 48 of file Memory.c.

2.5.2.3 int setupMemory ()

Initialize memory to 0.

Returns

0 if success, 1 otherwise.

Definition at line 27 of file Memory.c.

2.5.2.4 int write (unsigned short *addr*, char *const *data*, unsigned int *len*)

write [*len*] bytes from [*data*] into memory at adress [*addr*]

Parameters

in	<i>addr</i>	Address where data will be written
in	<i>data</i>	Pointer to data buffer
in	<i>len</i>	Number of byte written

Returns

0 if success, 1 otherwise.

Definition at line 39 of file Memory.c.

2.6 src/Memory.h File Reference

Defines

- #define [RESERVED_MEMORY_START](#) 0x0
Specifies where memory starts (0x0, what a surprise isn't it ??).

- #define [RESERVED_MEMORY_STOP](#) 0x200
Specifies where the memory stops.
- #define [DATA_SPACE_START](#) 0x200
Specifies the beginning of the data space.
- #define [DATA_SPACE_STOP](#) 0xFFFF
Specifies the end of the data space.
- #define [MAX_REGISTERS](#) 0xF
Specifies the maximum number of registers..

Functions

- int [setupMemory](#) ()
Initialize memory to 0.
- void [cleanupMemory](#) ()
Cleanup all memory.
- int [write](#) (unsigned short addr, char *const data, unsigned int len)
write [len] bytes from [data] into memory at adress [addr]
- int [read](#) (short addr, unsigned short len, char *const buffer)
Read [len] bytes of data from address [addr] to buffer.

2.6.1 Define Documentation

2.6.1.1 #define [DATA_SPACE_START](#) 0x200

Specifies the beginning of the data space.

Definition at line 36 of file Memory.h.

2.6.1.2 #define [DATA_SPACE_STOP](#) 0xFFFF

Specifies the end of the data space.

Definition at line 38 of file Memory.h.

2.6.1.3 `#define MAX_REGISTERS 0xF`

Specifies the maximum number of registers..

Definition at line 41 of file Memory.h.

2.6.1.4 `#define RESERVED_MEMORY_START 0x0`

Specifies where memory starts (0x0, what a surprise isn't it ??).

Definition at line 31 of file Memory.h.

2.6.1.5 `#define RESERVED_MEMORY_STOP 0x200`

Specifies where the memory stops.

Definition at line 33 of file Memory.h.

2.6.2 Function Documentation

2.6.2.1 `void cleanupMemory ()`

Cleanup all memory.

Definition at line 35 of file Memory.c.

2.6.2.2 `int read (short addr, unsigned short len, char *const buffer)`

Read [*len*] bytes of data from address [*addr*] to buffer.

Parameters

<i>in</i>	<i>addr</i>	Address where read begins
<i>in</i>	<i>len</i>	Number of bytes read
<i>out</i>	<i>buffer</i>	Pointer to the data buffer

Returns

0 if success, 1 otherwise.

Definition at line 48 of file Memory.c.

2.6.2.3 `int setupMemory ()`

Initialize memory to 0.

Returns

0 if success, 1 otherwise.

Definition at line 27 of file Memory.c.

2.6.2.4 `int write (unsigned short addr, char *const data, unsigned int len)`

write [*len*] bytes from [*data*] into memory at adress [*addr*]

Parameters

in	<i>addr</i>	Address where data will be written
in	<i>data</i>	Pointer to data buffer
in	<i>len</i>	Number of byte written

Returns

0 if success, 1 otherwise.

Definition at line 39 of file Memory.c.

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