My Project

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Chapter 1

Main Page

This is a c-code that solves an important problem!

Author

D. Psaltis

Date

March 20, 2020

Chapter 2

Todo List

Global addEl (double a[])

have to check if the array has at least two elements

Chapter 3

Namespace Index

3.1 Namespace List

Here is a list of all namespaces with brief descriptions:

Chapter 4

File Index

4.1 File List

Here is a list of all files with brief descriptions:

Chapter 5

Namespace Documentation

5.1 array Namespace Reference

Variables

- A = np.array([1,2,3,4,5])
- B = np.copy(A)

5.1.1 Variable Documentation

5.1.1.1 A

```
A = np.array([1,2,3,4,5])
```

Definition at line 4 of file array.py.

5.1.1.2 B

```
B = np.copy(A)
```

Definition at line 8 of file array.py.

5.2 cache Namespace Reference

Variables

- times
- i
- dummy = A[i]; /* touch an item in the array */

5.2.1 Variable Documentation

5.2.1.1 dummy

```
dummy = A[i]; /* touch an item in the array */
```

Definition at line 12 of file cache.py.

5.2.1.2 i

```
i
```

Definition at line 11 of file cache.py.

5.2.1.3 times

```
times
```

Definition at line 8 of file cache.py.

5.3 pyfunc Namespace Reference

Variables

- clib = cdll.LoadLibrary("libfun.so")
- argtypes
- restype
- float a = 10.0
- float b = 20.0
- result = clib.multiply(a,b)

5.3.1 Variable Documentation

5.3.1.1 a

```
float a = 10.0
```

Definition at line 12 of file pyfunc.py.

5.3.1.2 argtypes

```
argtypes
```

Definition at line 7 of file pyfunc.py.

5.3.1.3 b

```
float b = 20.0
```

Definition at line 13 of file pyfunc.py.

5.3.1.4 clib

```
clib = cdll.LoadLibrary("libfun.so")
```

Definition at line 4 of file pyfunc.py.

5.3.1.5 restype

```
restype
```

Definition at line 10 of file pyfunc.py.

5.3.1.6 result

```
result = clib.multiply(a,b)
```

Definition at line 15 of file pyfunc.py.

5.4 pyfunc_array Namespace Reference

Variables

- clib = cdll.LoadLibrary("libfun.so")
- argtypes
- dtype
- restype
- A = np.array([1.,2.,3.,4.,5.])
- result = clib.arraySum(A,5)

5.4.1 Variable Documentation

5.4.1.1 A

```
A = np.array([1.,2.,3.,4.,5.])
```

Definition at line 13 of file pyfunc_array.py.

5.4.1.2 argtypes

```
argtypes
```

Definition at line 8 of file pyfunc_array.py.

5.4.1.3 clib

```
clib = cdll.LoadLibrary("libfun.so")
```

Definition at line 5 of file pyfunc_array.py.

5.4.1.4 dtype

```
dtype
```

Definition at line 8 of file pyfunc_array.py.

5.4.1.5 restype

```
restype
```

Definition at line 11 of file pyfunc_array.py.

5.4.1.6 result

```
result = clib.arraySum(A,5)
```

Definition at line 15 of file pyfunc_array.py.

Chapter 6

File Documentation

6.1 array.c File Reference

The main documentation.

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

Functions

- double addEl (double a[ ])

  Adds the first two elements of an array.
- int main (void)

  Main function.

6.1.1 Detailed Description

The main documentation.

6.1.2 Function Documentation

6.1.2.1 addEl()

```
double addEl (
             double a[] )
```

Adds the first two elements of an array.

Given the array of doubles a[] in the arguments, it first changes the 0-th element to 2.0 and then adds the first two elements.

It returns the sum of the first two elements.

Author

D. Psaltis

Version

1.0

Date

Mar 23, 2020

Todo have to check if the array has at least two elements

Parameters

a[]	an array of doubles that will be changed

Returns

sum a double with the sum of the fist two array elements

Definition at line 43 of file array.c.

6.1.2.2 main()

```
int main (
             void  )
```

Main function.

This is just the main function

v2.0 This was corrected

v1.0 This was the first attempt

Author

D. Psaltis

Version

2.0

Date

Mar 23, 2020

Definition at line 72 of file array.c.

6.2 array.py File Reference

Namespaces

- array

Variables

- A = np.array([1,2,3,4,5])
- B = np.copy(A)

6.3 cache.c File Reference

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

Macros

- #define MAX 32
- #define ArraySize 256∗1024

Functions

- int main (void)

6.3.1 Macro Definition Documentation

6.3.1.1 ArraySize

```
#define ArraySize 256*1024
```

Definition at line 6 of file cache.c.

6.3.1.2 MAX

```
#define MAX 32
```

Definition at line 5 of file cache.c.

6.3.2 Function Documentation

6.3.2.1 main()

```
int main (
            void  )
```

Definition at line 8 of file cache.c.

6.4 cache.py File Reference

Namespaces

- cache

Variables

- times
- i
- dummy = A[i]; /* touch an item in the array */

6.5 cfunc.c File Reference

Functions

- double multiply (double a, double b)

6.5.1 Function Documentation

6.5.1.1 multiply()

```
double multiply (
            double a,
            double b )
```

Definition at line 2 of file cfunc.c.

6.6 cfunc_array.c File Reference

Functions

- double arraySum (double ∗array, int NSIZE)

6.6.1 Function Documentation

6.6.1.1 arraySum()

```
double arraySum (
            double * array,
            int NSIZE )
```

Definition at line 2 of file cfunc_array.c.

6.7 pyfunc.py File Reference

Namespaces

- pyfunc

Variables

- clib = cdll.LoadLibrary("libfun.so")
- argtypes
- restype
- float a = 10.0
- float b = 20.0
- result = clib.multiply(a,b)

6.8 pyfunc_array.py File Reference

Namespaces

- pyfunc_array

Variables

- clib = cdll.LoadLibrary("libfun.so")
- argtypes
- dtype
- restype
- A = np.array([1.,2.,3.,4.,5.])
- result = clib.arraySum(A,5)

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