

Level 2 Allocation (Assignment 1)

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Contents

1	File Index	1
1.1	File List	1
2	File Documentation	3
2.1	src/CalcModule.py File Reference	3
2.1.1	Detailed Description	3
2.1.2	Function Documentation	3
2.1.2.1	allocate()	3
2.1.2.2	average()	4
2.1.2.3	sort()	4
2.1.2.4	swap()	5
2.2	src/ReadAllocationData.py File Reference	5
2.2.1	Detailed Description	5
2.2.2	Function Documentation	5
2.2.2.1	readDeptCapacity()	5
2.2.2.2	readFreeChoice()	6
2.2.2.3	readStdnts()	6
	Index	7

Chapter 1

File Index

1.1 File List

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

src/ CalcModule.py	
Guinness to preform operations on the data got from the ReadAllocationData.py	14-18, 2019 . . . 3
src/ ReadAllocationData.py	
Guinness, guinnesj module to open files, process, then store the data	14-18, 2019 5

Chapter 2

File Documentation

2.1 src/CalcModule.py File Reference

Guinness to preform operations on the data got from the [ReadAllocationData.py](#) 14-18, 2019

Functions

- def [CalcModule.sort](#) (S)
A function which sorts the students based on gpa from highest to lowest.
- def [CalcModule.average](#) (L, g)
A function which gets the average gpa of either all the male or female students.
- def [CalcModule.allocate](#) (S, F, C)
A function which allocates the students into their streams.
- def [CalcModule.swap](#) (list, elem1, elem2)
A function which swaps two elements in a list.

2.1.1 Detailed Description

Guinness to preform operations on the data got from the [ReadAllocationData.py](#) 14-18, 2019

2.1.2 Function Documentation

2.1.2.1 allocate()

```
def CalcModule.allocate (  
    S,  
    F,  
    C )
```

A function which allocates the students into their streams.

It first allocates those with free choice, then it allocates those without free choice in order of gpa

Parameters

<i>p1</i>	A list of dictionaries of students
<i>p2</i>	A list of students with free choice
<i>p3</i>	A dictionary of department capacities

Returns

Returns a dictionary of allocated students

2.1.2.2 average()

```
def CalcModule.average (
    L,
    g )
```

A function which gets the average gpa of either all the male or female students.

Parameters

<i>p1</i>	A list of dictionaries of students
<i>p2</i>	A string which is either 'male' or 'female'

Returns

Returns the average gpa

2.1.2.3 sort()

```
def CalcModule.sort (
    S )
```

A function which sorts the students based on gpa from highest to lowest.

Parameters

<i>p1</i>	A list of dictionaries of students
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Returns

Returns a list of dictionaries of students sorted by gpa

2.1.2.4 swap()

```
def CalcModule.swap (
    list,
    elem1,
    elem2 )
```

A function which swaps two elements in a list.

Parameters

<i>a</i>	list
<i>p2</i>	An element
<i>p3</i>	An element

Returns

The list

2.2 src/ReadAllocationData.py File Reference

Guinness, guinnesj module to open files, process, then store the data 14-18, 2019

Functions

- def [ReadAllocationData.readStdnts](#) (s)
A function which reads in student data from a file and stores it in a list of dictionaries.
- def [ReadAllocationData.readFreeChoice](#) (s)
A function which reads in data about students with free choice from a file and stores it in a list.
- def [ReadAllocationData.readDeptCapacity](#) (s)
A function which reads in data about department capacities from a file and stores it in a dictionary.

2.2.1 Detailed Description

Guinness, guinnesj module to open files, process, then store the data 14-18, 2019

2.2.2 Function Documentation

2.2.2.1 readDeptCapacity()

```
def ReadAllocationData.readDeptCapacity (
    s )
```

A function which reads in data about department capacities from a file and stores it in a dictionary.

Parameters

<i>p1</i>	A string corresponding to a filename
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Returns

Returns a dictionary of departments and their capacity

2.2.2.2 readFreeChoice()

```
def ReadAllocationData.readFreeChoice (
    s )
```

A function which reads in data about students with free choice from a file and stores it in a list.

Parameters

<i>p1</i>	A string corresponding to a filename
-----------	--------------------------------------

Returns

Returns a list of macids of students with free choice

2.2.2.3 readStdnts()

```
def ReadAllocationData.readStdnts (
    s )
```

A function which reads in student data from a file and stores it in a list of dictionaries.

Parameters

<i>p1</i>	A string corresponding to a filename
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Returns

Returns a list of dictionaries of student information

Index

- allocate
 - CalcModule.py, [3](#)
- average
 - CalcModule.py, [4](#)
- CalcModule.py
 - allocate, [3](#)
 - average, [4](#)
 - sort, [4](#)
 - swap, [4](#)
- ReadAllocationData.py
 - readDeptCapacity, [5](#)
 - readFreeChoice, [6](#)
 - readStdnts, [6](#)
- readDeptCapacity
 - ReadAllocationData.py, [5](#)
- readFreeChoice
 - ReadAllocationData.py, [6](#)
- readStdnts
 - ReadAllocationData.py, [6](#)
- sort
 - CalcModule.py, [4](#)
- src/CalcModule.py, [3](#)
- src/ReadAllocationData.py, [5](#)
- swap
 - CalcModule.py, [4](#)