

## Project 5

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# Chapter 1

## Class Index

### 1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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## Chapter 2

# Class Documentation

### 2.1 cFSS Class Reference

#### Public Member Functions

- `cFSS` (string fname)  
*A constructor.*
- `~cFSS` ()  
*A destructor.*
- float `Makespan` (vector< int > Schedule)  
*A normal member taking in the schedule and number of jobs and returning the makespan.*
- int `GetJobs` ()  
*Returns the number of jobs.*
- int `GetMachines` ()  
*Returns the number of machines.*
- float `Max` (float, float)
- void `Initialize` ()
- float \*\* `getProcessTime` ()

#### 2.1.1 Constructor & Destructor Documentation

##### 2.1.1.1 cFSS()

```
cFSS::cFSS (
    string fname )
```

A constructor.

Constructs the FSS class, and assigns the values.

### 2.1.1.2 ~cFSS()

```
cFSS::~~cFSS ( )
```

A destructor.

Clears the memory.

## 2.1.2 Member Function Documentation

### 2.1.2.1 GetJobs()

```
int cFSS::GetJobs ( )
```

Returns the number of jobs.

#### Parameters

<i>no</i>	parameters
-----------	------------

#### Returns

The number of jobs

### 2.1.2.2 GetMachines()

```
int cFSS::GetMachines ( )
```

Returns the number of machines.

#### Parameters

<i>no</i>	parameters
-----------	------------

#### Returns

The number of machines

### 2.1.2.3 Makespan()

```
float cFSS::Makespan (
    vector< int > Schedule )
```



A normal member taking in the schedule and number of jobs and returning the makespan.

#### Parameters

<i>the</i>	schedule
------------	----------

#### Returns

The cost of the tours

The documentation for this class was generated from the following files:

- FSS.h
- FSS.cpp

## 2.2 cFSSB Class Reference

### Public Member Functions

- [cFSSB](#) (string fname)  
*A constructor.*
- [~cFSSB](#) ()  
*A destructor.*
- float [Makespan](#) (vector< int > Schedule)  
*A normal member taking in the schedule and number of jobs and returning the cost.*
- int [GetJobs](#) ()  
*Returns the number of jobs.*
- int [GetMachines](#) ()  
*Returns the number of machines.*
- void **Initialize** ()

### 2.2.1 Constructor & Destructor Documentation

#### 2.2.1.1 cFSSB()

```
cFSSB::cFSSB (
    string fname )
```

A constructor.

Constructs the FSSB class, and assigns the values.

### 2.2.1.2 ~cFSSB()

```
cFSSB::~~cFSSB ( )
```

A destructor.

Clears the memory.

## 2.2.2 Member Function Documentation

### 2.2.2.1 GetJobs()

```
int cFSSB::GetJobs ( )
```

Returns the number of jobs.

#### Parameters

<i>no</i>	parameters
-----------	------------

#### Returns

The number of jobs

### 2.2.2.2 GetMachines()

```
int cFSSB::GetMachines ( )
```

Returns the number of machines.

#### Parameters

<i>no</i>	parameters
-----------	------------

#### Returns

The number of machines

### 2.2.2.3 Makespan()

```
float cFSSB::Makespan (
    vector< int > Schedule )
```

A normal member taking in the schedule and number of jobs and returning the cost.

#### Parameters

<i>A</i>	flowshop schedule
----------	-------------------

#### Returns

The makespan value

The documentation for this class was generated from the following files:

- FSSB.h
- FSSB.cpp

## 2.3 cFSSNW Class Reference

### Public Member Functions

- [cFSSNW](#) (string fname)  
*A constructor.*
- [~cFSSNW](#) ()  
*A destructor.*
- float [Makespan](#) (vector< int > Schedule)  
*A normal member taking in the schedule and number of jobs and returning the cost.*
- int [GetJobs](#) ()  
*Returns the number of jobs.*
- int [GetMachines](#) ()  
*Returns the number of machines.*
- void [Initialize](#) ()

### 2.3.1 Constructor & Destructor Documentation

#### 2.3.1.1 cFSSNW()

```
cFSSNW::cFSSNW (
    string fname )
```

A constructor.

Constructs the FSSNW class, and assigns the values.

### 2.3.1.2 `~cFSSNW()`

```
cFSSNW::~~cFSSNW ( )
```

A destructor.

Clears the memory.

## 2.3.2 Member Function Documentation

### 2.3.2.1 `GetJobs()`

```
int cFSSNW::GetJobs ( )
```

Returns the number of jobs.

#### Parameters

<i>no</i>	parameters
-----------	------------

#### Returns

The number of jobs

### 2.3.2.2 `GetMachines()`

```
int cFSSNW::GetMachines ( )
```

Returns the number of machines.

#### Parameters

<i>no</i>	parameters
-----------	------------

#### Returns

The number of machines

### 2.3.2.3 `Makespan()`

```
float cFSSNW::Makespan (
    vector< int > Schedule )
```

A normal member taking in the schedule and number of jobs and returning the cost.

#### Parameters

A	flowshop schedule
---	-------------------

#### Returns

The makespan value

The documentation for this class was generated from the following files:

- FSSNW.h
- FSSNW.cpp

## 2.4 NEHAlgorithm Class Reference

### Public Member Functions

- [NEHAlgorithm](#) (string fname)  
*A constructor.*
- [~NEHAlgorithm](#) ()  
*A destructor.*
- int \* [sortByTime](#) ()  
*Returns An array of sorted jobs.*
- vector< int > [sortFSSbyTime](#) (vector< int > sequence, int nextIndex)  
*A normal member taking in the schedule and the current index of the job and returning optimal job order.*
- vector< int > [sortFSSBbyTime](#) (vector< int > sequence, int nextIndex)  
*A normal member taking in the schedule and the current index of the job and returning optimal job order.*
- vector< int > [sortFSSNWbyTime](#) (vector< int > sequence, int nextIndex)  
*A normal member taking in the schedule and the current index of the job and returning optimal job order.*
- float [runFSSAlgorithm](#) ()  
*Returns The Makespan for FSS Algorithm.*
- float [runFSSBAlgorithm](#) ()  
*Returns The Makespan for FSSB Algorithm.*
- float [runFSSNWAlgorithm](#) ()  
*Returns The Makespan for FSSNW Algorithm.*

### 2.4.1 Constructor & Destructor Documentation

#### 2.4.1.1 NEHAlgorithm()

```
NEHAlgorithm::NEHAlgorithm (
    string fname )
```

A constructor.

Constructs the NEHAlgorithm class, and assigns the values.

**Parameters**

<i>The</i>	name of the file of which to read from.
------------	---

**2.4.1.2 ~NEHAlgorithm()**

```
NEHAlgorithm::~NEHAlgorithm ( )
```

A destructor.

Clears the memory.

**2.4.2 Member Function Documentation****2.4.2.1 runFSSAlgorithm()**

```
float NEHAlgorithm::runFSSAlgorithm ( )
```

Returns The Makespan for FSS Algorithm.

**Parameters**

<i>no</i>	parameters
-----------	------------

**Returns**

The Makespan for FSS Algorithm

**2.4.2.2 runFSSBAlgorithm()**

```
float NEHAlgorithm::runFSSBAlgorithm ( )
```

Returns The Makespan for FSSB Algorithm.

**Parameters**

<i>no</i>	parameters
-----------	------------

**Returns**

The Makespan for FSSB Algorithm

**2.4.2.3 runFSSNWAlgorithm()**

```
float NEHAlgorithm::runFSSNWAlgorithm ( )
```

Returns The Makespan for FSSNW Algorithm.

**Parameters**

<i>no</i>	parameters
-----------	------------

**Returns**

The Makespan for FSSNW Algorithm

**2.4.2.4 sortByTime()**

```
int * NEHAlgorithm::sortByTime ( )
```

Returns An array of sorted jobs.

**Parameters**

<i>no</i>	parameters
-----------	------------

**Returns**

An array containing the jobs sorted from largest to smallest

**2.4.2.5 sortFSSBbyTime()**

```
vector< int > NEHAlgorithm::sortFSSBbyTime (
    vector< int > sequence,
    int nextIndex )
```

A normal member taking in the schedule and the current index of the job and returning optimal job order.

**Parameters**

<i>A</i>	flowshop schedule
<i>the</i>	current job index

**Returns**

The optimal job order for FSSB

**2.4.2.6 sortFSSbyTime()**

```
vector< int > NEHAlgorithm::sortFSSbyTime (
    vector< int > sequence,
    int nextIndex )
```

A normal member taking in the schedule and the current index of the job and returning optimal job order.

**Parameters**

<i>A</i>	flowshop schedule
<i>the</i>	current job index

**Returns**

The optimal job order for FSS

**2.4.2.7 sortFSSNWbyTime()**

```
vector< int > NEHAlgorithm::sortFSSNWbyTime (
    vector< int > sequence,
    int nextIndex )
```

A normal member taking in the schedule and the current index of the job and returning optimal job order.

**Parameters**

<i>A</i>	flowshop schedule
<i>the</i>	current job index

**Returns**

The optimal job order for FSSNW

The documentation for this class was generated from the following files:



- NEHAlgorithm.h
- NEHAlgorithm.cpp

## 2.5 strs Struct Reference

Struct for sorting jobs.

```
#include <NEHAlgorithm.h>
```

### Public Attributes

- float **value**
- int **index**

### 2.5.1 Detailed Description

Struct for sorting jobs.

#### Parameters

<i>sum</i>	of the execution time of the job on all machines
<i>Job</i>	Number

#### Returns

A struct

The documentation for this struct was generated from the following file:

- NEHAlgorithm.h



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