IAS Class Documentation

Source File: IAS.h
Class Header: `class IAS: public Object`
Namespace: `osl`

Overview

The *IAS* class holds the memory locations and registers of an IAS computer as *Memory* objects.

Constructors

- `IAS()` (default constructor)
  - **Purpose:** Assigns zero to the content of every register and memory location of the IAS computer, and deactivates them all.
- `IAS(const IAS& obj)` (copy constructor)
  - **Purpose:** Constructs a deep copy of *obj*.
  - **Parameter(s):**
    - *obj*: Constant *IAS* reference object.

Destructor

- `~IAS()` [virtual]
  - **Purpose:** Does nothing.

Assignment Operators

- `operator=(const IAS& rhs)`
  - **Purpose:** Constructs a deep copy of *rhs*.
  - **Parameter(s):**
    [•]
    - *rhs*: Constant *IAS* reference object.
  - **Return:** `*this`.

Methods

- `operator[](int idx)`
  - **Purpose:** Retrieves the memory location with the index *idx* if *idx* is valid
  - **Parameter(s):**
    [•]
    - *idx*: An integer.
  - **Exception:** Throws out-of-range exception if *idx* not in the range [0,4095]
  - **Return:** A *Memory* reference.
- `operator()(int idx)`
  - **Purpose:** Retrieves the register with the index *idx* where PC, IR, IBR, MAR, MBR, AC, and MQ have indices 0 through 6, respectively.
  - **Parameter(s):**
    [•]
    - *idx*: An integer.
  - **Exception:** Throws out-of-range exception if *idx* not in the range [0,6]
  - **Return:** A *Memory* reference.
- `ToString() const` [overridden]
  - **Purpose:** Provides a string representation of the *IAS* object.
  - **Return:** A string that is a list of all active registers and memory locations.