My Project

Generated by Doxygen 1.8.3

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1.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

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2.1 Class List

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

Chapter 3

File Index

3.1 File List

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

Chapter 4

Class Documentation

4.1 Arc_t Struct Reference

Public Attributes

- int **delai**
- t_Dep **dep**
- Node_dfg ∗ **next**

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

- Node_dfg.h

4.2 asfig Struct Reference

Public Attributes

- struct utdic ∗ **GLB_DIC**
- struct uttyp ∗ **GLB_SYM**
- struct uttyp ∗ **MEM_TAB**
- struct asosc ∗ **OUT_SEC**
- struct asisc ∗ **IN_SEC**
- struct asobj ∗ **OBJECTS**
- unsigned int **FLAG**

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

- asm200.h

4.3 asisc Struct Reference

Public Attributes

- struct asisc ∗ **NEXT**
- char ∗ **IDENT**
- struct asosc ∗ **OUT_SEC**
- unsigned int **POSITION**

- unsigned int **FLAG**

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

- asm200.h

4.4 asiss Struct Reference

Public Attributes

- struct asiss ∗ **NEXT**
- unsigned int **ADDR**
- unsigned int **SIZE**
- unsigned int **FLAG**

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

- asm200.h

4.5 asobj Struct Reference

Public Attributes

- struct asobj ∗ **NEXT**
- char ∗ **IDENT**
- struct utdic ∗ **SYM_DIC**
- struct uttyp ∗ **SEC_SYM**
- unsigned int **FLAG**

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

- asm200.h

4.6 asosc Struct Reference

Public Attributes

- struct asosc ∗ **NEXT**
- char ∗ **IDENT**
- unsigned int **INS_NBR**
- struct asiss ∗∗ **CUR_ISS**
- struct asiss ∗∗ **SUB_SEC**
- unsigned int **ADDR**
- unsigned int **SIZE**
- unsigned int **FLAG**

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

- asm200.h

4.7 Basic_block Class Reference

class representing a Basic_block of a fonction

`#include <Basic_block.h>`

Public Member Functions

- Basic_block ()

  Constructor of a Basic Block.
- ∼Basic_block ()

  Destructor of a basic block.
- void set_head (Node ∗)

  setter of the head of the basic block
- void set_end (Node ∗)

  setter of the end of the basic block
- Node ∗ get_head ()

  get the head of the basic block
- Node ∗ get_end ()

  get the end of the basic block
- void set_branch (Node ∗)

  setter of Node corresponding to the branch
- Node ∗ get_branch ()

  get the Node corresponding to the branch
- bool is_labeled ()

  Return true if the first line of the block is a label.
- void set_index (int i)

  set the index of the basic block
- int get_index ()

  get the index of the basic block
- int size ()

  returns the size (in nodes) of the basic block
- int get_nb_succ ()

  returns/gets the number of successors of the basic block
- int get_nb_pred ()

  returns/gets the number of predecessors of the basic block
- void set_successor1 (Basic_block ∗BB)

  setter of the successor of the basic block
- Basic_block ∗ get_successor1 ()

  get the successor of the basic block
- void set_successor2 (Basic_block ∗BB)

  setter of the successor of the basic block
- Basic_block ∗ get_successor2 ()

  get the successor of the basic block
- void set_predecessor (Basic_block ∗BB)

  setter of the predecessor of the basic block
- Basic_block ∗ get_predecessor (int)

  get the ith predecessor of the basic block
- int get_nb_inst ()

  returns the number of instructions
- Node ∗ **get_first_node_instruction** ()

- Instruction ∗ get_first_instruction ()

  return the first instruction of the basic block, NULL if any
- Instruction ∗ **get_last_instruction** ()
- Instruction ∗ get_instruction_at_index (int)

  returns the instruction at the given index, NULL if any
- void link_instructions ()

  link instructions in the order they appear in the code
- void comput_pred_succ_dep ()

  computes dependances predecessors and successors of each instructions in the BB
- void display ()

  to display the basic block
- void restitution (string const)

  restitutes the basic block in a file
- void set_link_succ_pred (Basic_block ∗)

  sets the parameter as successor and this as predecessor of the parameter
- bool is_delayed_slot (Instruction ∗)

  tests if the instruction is in the delayed slots of the branch terminating the BB if any
- int nb_cycles ()

  gives the number of cycles to execute all instruction in this
- void test ()

  this method is to be used to test other methods

Static Public Member Functions

- static void **show_dependances** (Instruction ∗, Instruction ∗)

4.7.1 Detailed Description

class representing a Basic_block of a fonction

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

- Basic_block.h

4.8 Cfg Class Reference

class representing control flow graph

```
#include <Cfg.h>
```

Public Member Functions

- Cfg (Basic_block ∗, int)

  Constructor of Cfg.
- ∼Cfg ()

  Destructor of Cfg.
- Basic_block ∗ get_head ()

  get the head of the cfg
- void display (Basic_block ∗)

  Display cfg, when you call this method you have to affect the fisrt parameter to NULL.
- void restitution (Basic_block ∗, string const)

  Restitut the cfg in file with DOT, when you call this method you have to affect the fisrt parameter to NULL.

4.8.1 Detailed Description

class representing control flow graph

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

- Cfg.h

4.9 dep Struct Reference

Public Attributes

- Instruction ∗ **inst**
- t_Dep **type**

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

- Instruction.h

4.10 Dfg Class Reference

class representing a Dfg of a Basic block, a data flow graph that is to be used to calculate the critical path and schedule code

```
#include <Dfg.h>
```

Public Member Functions

- Dfg (Basic_block ∗)

  Constructor of Dfg given a basic block.
- ∼Dfg ()

  Destructor of Dfg.
- void build_dfg (Node_dfg ∗, bool)

  Build the Dfg, when you call this method you have to affect the fisrt parameter to NULL and the second to true.
- void display (Node_dfg ∗, bool)

  Display the Dfg, when you call this method you have to affect the fisrt parameter to NULL and the second to true.
- void restitute (Node_dfg ∗, string const, bool)

  restitute the Dfg, when you call this method you have to affect the fisrt parameter to NULL and the third to true
- bool read_test ()

  tests if all node have been read
- void comput_critical_path ()

  comput the node weight needed for critical path computation of the Dfg
- void **compute_nb_descendant** ()
- void scheduling (bool)

  order the instructions in the basic block according to an algorithm list
- void **apply_scheduling** ()
- int get_critical_path ()

  returns the highest weigth of nodes
- void **display_sheduled_instr** ()

4.10.1 Detailed Description

class representing a Dfg of a Basic block, a data flow graph that is to be used to calculate the critical path and schedule code

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

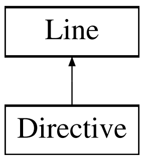
- Dfg.h

4.11 Directive Class Reference

class representing an Directive herited by Line

```
#include <Directive.h>
```

Inheritance diagram for Directive:



Public Member Functions

- Directive (string)

  Constructor of the Directive.
- Directive (string, string)

  Constructor of the Directive with directive, content and an boolean.
- Directive (string, string, bool)

  Constructor of the Directive with directive, content and an boolean.
- virtual ∼Directive ()

  Destructor of the Directive.
- virtual t_Line type_line ()

  get the type of the line
- virtual string to_string ()

  get the string of the Directive
- virtual string get_content ()

  get the string of the Directive
- virtual void set_content (string)

  set the string of the Directive
- bool is_function ()

  return true if the directive indicate a function
- virtual t_Inst get_type ()

  return the type of the instruction

Public Attributes

- string **_dir**
- string **_value**
- bool **_isfunction**

Additional Inherited Members

4.11.1 Detailed Description

class representing an Directive herited by Line

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

- Directive.h

4.12 Function Class Reference

class representing a Function on a program

`#include <Function.h>`

Public Member Functions

- Function ()

  Constructor of a function.
- ∼Function ()

  Destructor of a function.
- void set_head (Node ∗)

  setter of the head of the function
- void set_end (Node ∗)

  setter of the end of the function
- Node ∗ get_head ()

  get the head of the function
- Basic_block ∗ **get_firstBB** ()
- Node ∗ get_end ()

  get the end of the function
- void display ()

  display the function
- int size ()

  get the size of the function
- void restitution (string const)

  restitute the function in a file
- void **add_BB** (Node ∗, Node ∗, int)
- void comput_basic_block ()

  Calculate the basics bolck of the function.
- int nbr_BB ()

  get the number of Basic block in the function
- Basic_block ∗ get_BB (int)

  get the Basic Block in the list
- list< Basic_block ∗ >::iterator **bb_list_begin** ()
- list< Basic_block ∗ >::iterator **bb_list_end** ()
- void comput_label ()

  comput labels of the function in list
- Label ∗ get_label (int)

  get all labels of the function
- int nbr_label ()

  get the size of the list label

- Basic_block ∗ find_label_BB (OPLabel ∗)

  Get the basic block corresponding to the label.
- void comput_succ_pred_BB ()

  Associate for each Basic block its successors.
- void test ()

  method to test other methods

4.12.1 Detailed Description

class representing a Function on a program

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

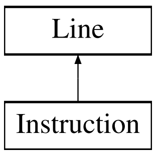
- Function.h

4.13 Instruction Class Reference

class representing an instruction which herited by Line

`#include <Instruction.h>`

Inheritance diagram for Instruction:



Public Member Functions

- Instruction (string, t_Operator, t_Inst, Operand ∗, Operand ∗, Operand ∗)

  Constructor of the class instruction.
- Instruction (t_Operator, Operand ∗, Operand ∗, Operand ∗)

  Constructor with 3 Operands of the class instruction.
- Instruction (t_Operator, Operand ∗, Operand ∗)

  Constructor with 2 Operands of the class instruction.
- Instruction (t_Operator, Operand ∗)

  Constructor with 1 Operand of the class instruction.
- Instruction (t_Operator)

  Constructor without Operands of the class instruction.
- virtual ∼Instruction ()

  Destructor of the class instruction.
- Operand ∗ get_op1 ()

  Get the first operand value accessor of the operand.
- void set_op1 (Operand ∗o)

  set the first operand value setter of the operand
- Operand ∗ get_op2 ()

  Get the second operand value accessor of the operand.
- void set_op2 (Operand ∗o)

  set the second operand value setter of the operand
- Operand ∗ get_op3 ()

Get the third operand value accessor of the operand.
- void set_op3 (Operand ∗o)

  set the third operand value setter of the operand
- t_Operator get_opcode ()

  get the Opcode value accessor of the opcode
- string string_opcode ()

  get the string Opcode value accessor of the string opcode
- void set_opcode (t_Operator newop)

  set the opcode value setter of the opcode
- t_Format get_format ()

  get the format of the Instruction accessor of the format
- virtual t_Inst get_type ()

  get the Type of the Instruction accessor of the Type
- virtual t_Line type_line ()

  get the type of the line
- virtual string to_string ()

  get the name string instruction
- virtual string get_content ()

  get the string of the instruction
- virtual void set_content (string)

  set the string of the instruction
- string string_form ()

  set the string format
- string string_type ()

  set the string Type of instruction
- bool **reads_in** (int dst)
- bool **writes_in** (int dst)
- t_Dep is_dependant (Instruction ∗i2)

  get the dependance between the current instruction and i2
- bool is_dep_RAW1 (Instruction ∗i2)

  get the information if there is dependance RAW between the current instruction and i2
- bool is_dep_RAW2 (Instruction ∗i2)

  get the information if there is dependance RAW between the current instruction and the first source operand of i2
- bool is_dep_RAW (Instruction ∗i2)

  get the information if there is dependance RAW between the current instruction and i2
- bool is_dep_WAR1 (Instruction ∗i2)

  test if there is dependance WAR between the first source operande of the current instruction if any and the destination register operande i2 if any
- bool is_dep_WAR2 (Instruction ∗i2)

  test if there is dependance WAR between the second source operande of the current instruction if any and the destination register operande i2 if any
- bool is_dep_WAR (Instruction ∗i2)

  get the information if there is dependance WAR between the current instruction and i2
- bool is_dep_WAW (Instruction ∗i2)

  get the information if there is dependance WAW between the current instruction and i2
- bool is_dep_MEM (Instruction ∗i2)

  test if there is dependance MEMDEP between the current instruction and i2
- int get_nbOp ()

  get the number of operand
- void set_number_oper (int)

  set the number of operand

- OPRegister ∗ get_reg_dst ()

    get the regiter destination of the instruction
- OPRegister ∗ get_reg_src1 ()

    get the first register source of the instruction
- OPRegister ∗ get_reg_src2 ()

    get the second register source of the instruction
- void set_next (Instruction ∗)

    get the successor of the Instruction
- void set_link_succ_pred (Instruction ∗)

    set the parameter as successor and this as predecessor of the parameter
- Instruction ∗ get_next ()

    get the successor of the Instruction
- void set_prev (Instruction ∗)

    setter of the predecessor of the Instruction
- Instruction ∗ get_prev ()

    get the predecessor of the Instruction
- void add_pred_dep (dep ∗)

    add a type of a dep with a predecessor instruction to the dependance type list
- dep ∗ get_pred_dep (int i)

    get the dependance type with the ith predecessor instruction of the current instruction
- void add_succ_dep (dep ∗)

    add a type of a dep with a successor instruction to list of the dependance type of successors
- list< dep ∗ >::iterator **succ_begin** ()
- list< dep ∗ >::iterator **succ_end** ()
- dep ∗ get_succ_dep (int i)

    get the dependance type with ith successor instruction of the current instruction
- int get_nb_succ ()

    get the number of successor of the Instruction
- int get_nb_pred ()

    get the number of predecessor of the Instruction
- int get_index ()

    get the index of instruction
- void set_index (int)

    set the index of instruction
- bool is_branch ()

    test if the instruction is a branch
- bool is_call ()

    test if the instruction is a call
- bool is_cond_branch ()

    test if the instruction is a conditionnal branch
- bool is_indirect_branch ()

    test if the instruction a branch and the target adress is in a register
- bool **is_mem** ()
- bool is_mem_load ()

    test if the instruction is a memory access that reads a value
- bool is_mem_store ()

    test if the instruction is a memory access that writes a value
- int get_latency ()

    test if the instruction is a memory access that writes a value
- void **print_succ_dep** ()

Static Public Member Functions

- static bool **is_writed_between** (int dst, Instruction ∗i1, Instruction ∗i2exclu)

Additional Inherited Members

4.13.1 Detailed Description

class representing an instruction which herited by Line

4.13.2 Member Function Documentation

4.13.2.1 int Instruction::get_nbOp ( )

get the number of operand

Returns

return the number of operand

4.13.2.2 bool Instruction::is_dep_MEM (Instruction ∗ *i2*)

test if there is dependance MEMDEP between the current instruction and i2

Returns

return true if there is a MEMDEP dependance

4.13.2.3 bool Instruction::is_dep_RAW (Instruction ∗ *i2*)

get the information if there is dependance RAW between the current instruction and i2

Returns

return true if there is a RAW dependance

4.13.2.4 bool Instruction::is_dep_RAW1 (Instruction ∗ *i2*)

get the information if there is dependance RAW between the current instruction and i2

Returns

return true if there is a RAW dependance between the current instruction and i2

4.13.2.5 bool Instruction::is_dep_RAW2 (Instruction ∗ *i2*)

get the information if there is dependance RAW between the current instruction and the first source operand of i2

Returns

return true if there is a RAW dependance between the current instruction and the first source register operand of i2

4.13.2.6 bool Instruction::is_dep_WAR (**Instruction** ∗ *i2*)

get the information if there is dependance WAR between the current instruction and i2

Returns

return true if there is a WAR dependance

4.13.2.7 bool Instruction::is_dep_WAR1 (**Instruction** ∗ *i2*)

test if there is dependance WAR between the first source operande of the current instruction if any and the destination register operande i2 if any

Returns

return true if there is a WAR dependance between the first source operande of the current instruction if any and the destination register operande i2 if any

4.13.2.8 bool Instruction::is_dep_WAR2 (**Instruction** ∗ *i2*)

test if there is dependance WAR between the second source operande of the current instruction if any and the destination register operande i2 if any

Returns

return true if there is a WAR dependance between the second source operande of the current instruction if any and the destination register operande i2 if any

4.13.2.9 bool Instruction::is_dep_WAW (**Instruction** ∗ *i2*)

get the information if there is dependance WAW between the current instruction and i2

Returns

return true if there is a WAW dependance

4.13.2.10 t_Dep Instruction::is_dependant (**Instruction** ∗ *i2*)

get the dependance between the current instruction and i2

Returns

return "RAW", "WAR", "WAW", "MEMDEP" or "not dependant" in format enum

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

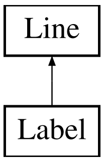
- Instruction.h

4.14 Label Class Reference

class representing an Label herited by Line

```
#include <Label.h>
```

Inheritance diagram for Label:



Public Member Functions

- Label (string)

  Constructor of the Label.
- virtual ∼Label ()

  Destructor of the Label.
- virtual t_Line type_line ()

  get the type of the line
- virtual string to_string ()

  get the string of Label
- virtual string get_content ()

  get the string of the Label
- virtual void set_content (string)

  set the string of the Label
- virtual t_Inst get_type ()

  return the type of the instruction

Additional Inherited Members

4.14.1 Detailed Description

class representing an Label herited by Line

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

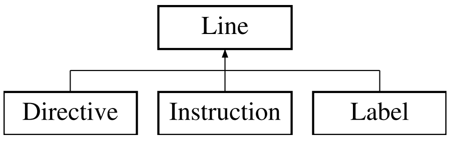
- Label.h

4.15 Line Class Reference

Abstract class representing an Line.

```
#include <Line.h>
```

Inheritance diagram for Line:



Public Member Functions

- virtual ~Line ()

  Virtual destructor.
- virtual string get_content ()=0

  get the string of the line virtual getter
- virtual void set_content (string)=0

  set the string of the line virtual setter
- virtual t_Line type_line ()=0

  get the type of the line virtual accessor of the type
- virtual string to_string ()=0

  get the name string accessor of the type line
- virtual t_Inst get_type ()=0

  return the type of the instruction
- bool isInst ()

  tests if the line is an instruction
- bool isLabel ()

  tests if the line is a label
- bool isDirective ()

  tests if the line is a directive

Protected Attributes

- string **_line**

4.15.1 Detailed Description

Abstract class representing an Line.

4.15.2 Member Function Documentation

4.15.2.1 virtual string Line::to_string ( ) `[pure virtual]`

get the name string accessor of the type line

Implemented in Instruction, Directive, and Label.

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

- Line.h

4.16 Node Class Reference

class representing a Node in list

`#include <Node.h>`

Public Member Functions

- Node (Line ∗content)

  Node constructor.
- ∼Node ()

  Node destructor.
- Node ∗ get_next ()

  get the next node
- void set_next (Node ∗)

  set the next node
- Node ∗ get_prev ()

  get the previous node
- void set_prev (Node ∗)

  set the previous node
- Line ∗ get_line ()

  get the current line
- void set_line (Line ∗newline)

  set the current line
- string get_lineContent ()

  get the content of the line

4.16.1 Detailed Description

class representing a Node in list

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

- Node.h

4.17 Node_dfg Class Reference

class representing a node of data flow graph

```
#include <Node_dfg.h>
```

Public Member Functions

- Node_dfg (Instruction ∗)

  Constructor of Node_dfg.
- ∼Node_dfg ()

  Destructor of Node_dfg.
- Arc_t ∗ get_arc (int i)

  get the ith arc of the arc list
- list< Arc_t ∗ >::iterator **arcs_begin** ()
- list< Arc_t ∗ >::iterator **arcs_end** ()
- int get_nb_arcs ()

  get the number of arcs
- Instruction ∗ get_instruction ()

  get the Instruction
- void add_successeur (Arc_t ∗)

  add an arc to the arc list

- void **add_predecesseur** (Node_dfg ∗)
- int **nb_preds** ()
- list< Node_dfg ∗ >::iterator **pred_begin** ()
- list< Node_dfg ∗ >::iterator **pred_end** ()
- void set_instruction (Instruction ∗)

  set the Instruction
- int **compute_weight** ()
- void set_weight (int)

  set the weight
- int get_weight ()

  get the weight
- int **compute_nb_descendant** (int nb_instr, int ∗deja_comptes)
- void set_nb_descendant (int)

  set the number of descendant
- int get_nb_descendant ()

  get the number of descendant
- void **set_tready** (int t)
- int **get_tready** ()

4.17.1 Detailed Description

class representing a node of data flow graph

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

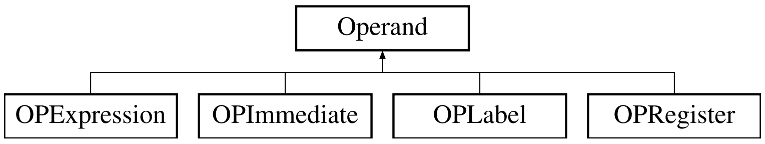
- Node_dfg.h

4.18 Operand Class Reference

Abstract class representing an operand.

`#include <Operand.h>`

Inheritance diagram for Operand:



Public Member Functions

- virtual ∼Operand ()

  Virtual destructor.
- virtual string get_op ()=0

  Get the operand value virtual accessor of the operand.
- virtual void set_op (string)=0

  set the operand value virtual setter of the operand
- virtual t_OpType get_op_type ()=0

  get the operator type virtual accessor of accessor
- virtual string to_string ()=0

  virtual tostring

Protected Attributes

- string **_oper**

4.18.1 Detailed Description

Abstract class representing an operand.

4.18.2 Member Function Documentation

4.18.2.1 virtual t_OpType Operand::get_op_type ( ) `[pure virtual]`

get the operator type virtual accessor of accessor

Returns

return the Operand type as enum

Implemented in OPRegister, OPImmediate, OPExpression, and OPLabel.

4.18.2.2 virtual string Operand::to_string ( ) `[pure virtual]`

virtual tostring

Returns

return the Object as string

Implemented in OPRegister, OPImmediate, OPExpression, and OPLabel.

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

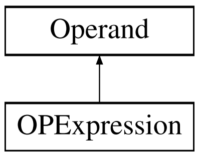
- Operand.h

4.19 OPExpression Class Reference

class representing an expression herited by Operand

`#include <OPExpression.h>`

Inheritance diagram for OPExpression:



Public Member Functions

- OPExpression (string)

  Constructor of the Expression class.
- virtual ~OPExpression ()

  Destructor of the Expression class.

- virtual string get_op ()

  Get the operand value.
- virtual t_OpType get_op_type ()

  get the operator type
- virtual string to_string ()

  tostring
- virtual void set_op (string)

  set the operand value setter of the operand

Additional Inherited Members

4.19.1 Detailed Description

class representing an expression herited by Operand

4.19.2 Member Function Documentation

4.19.2.1 virtual string OPExpression::get_op ( ) [virtual]

Get the operand value.

Returns

return the string of the Expression

Implements Operand.

4.19.2.2 virtual t_OpType OPExpression::get_op_type ( ) [virtual]

get the operator type

Returns

return the Operand type as enum

Implements Operand.

4.19.2.3 virtual string OPExpression::to_string ( ) [virtual]

tostring

Returns

return the Object as string

Implements Operand.

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

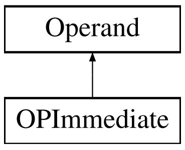
- OPExpression.h

4.20 OPImmediate Class Reference

class representing an Immediate herited by Operand

`#include <OPImmediate.h>`

Inheritance diagram for OPImmediate:



Public Member Functions

- OPImmediate (string)

  Constructor of the Immediate Class.
- OPImmediate (int)

  Constructor of the Immediate Class.
- virtual ∼OPImmediate ()

  Destructor of the Immediate Class.
- virtual string get_op ()

  Get the string of the operand.
- virtual t_OpType get_op_type ()

  get the operator type
- virtual string to_string ()

  tostring
- virtual void set_op (string)

  set the string of the operand setter of the operand

Additional Inherited Members

4.20.1 Detailed Description

class representing an Immediate herited by Operand

4.20.2 Member Function Documentation

4.20.2.1 virtual string OPImmediate::get_op ( ) `[virtual]`

Get the string of the operand.

Returns

return the string of the Immediate

Implements Operand.

4.20.2.2 virtual t_OpType OPImmediate::get_op_type ( ) [virtual]

get the operator type

Returns

return the Operand type as enum

Implements Operand.

4.20.2.3 virtual string OPImmediate::to_string ( ) [virtual]

tostring

Returns

return the name of the Object as string

Implements Operand.

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

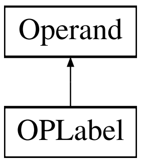
- OPImmediate.h

4.21 OPLabel Class Reference

class representing a Label herited by Operand

`#include <OPLabel.h>`

Inheritance diagram for OPLabel:



Public Member Functions

- OPLabel (string)

  Constructor of the Label Class.
- virtual ~OPLabel ()

  Destructor of the Label Class.
- virtual string get_op ()

  Get the string of the operand accessor of the operand.
- virtual t_OpType get_op_type ()

  get the operator type
- virtual string to_string ()

  tostring
- virtual void set_op (string)

  set the operand value setter of the operand

Additional Inherited Members

4.21.1 Detailed Description

class representing a Label herited by Operand

4.21.2 Member Function Documentation

4.21.2.1 virtual t_OpType OPLabel::get_op_type ( ) [virtual]

get the operator type

Returns

return the Operand type as enum

Implements Operand.

4.21.2.2 virtual string OPLabel::to_string ( ) [virtual]

tostring

Returns

return the name of the Object as string

Implements Operand.

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

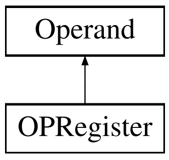
- OPLabel.h

4.22 OPRegister Class Reference

class representing a Register herited by Operand

`#include <OPRegister.h>`

Inheritance diagram for OPRegister:



Public Member Functions

- OPRegister (string, t_Src_Dst)

  Constructor of the Register class.
- OPRegister (string, int, t_Src_Dst)

  Constructor of the Register class.
- **OPRegister** (int, t_Src_Dst)
- virtual ~OPRegister ()

Destructor of the Register class.
- int get_reg ()

  Get the Register value.
- void set_reg (int)

  set the Register value setter of the Register
- virtual string get_op ()

  Get the operand value.
- virtual t_OpType get_op_type ()

  get the operator type
- virtual string to_string ()

  tostring
- virtual void set_op (string)

  set the operand value setter of the operand
- void set_type (t_Src_Dst)

  set the type of the register setter of the register type
- t_Src_Dst get_type ()

  get the type of the register getter of the register type

Additional Inherited Members

4.22.1 Detailed Description

class representing a Register herited by Operand

4.22.2 Member Function Documentation

4.22.2.1 virtual string OPRegister::get_op ( ) [virtual]

Get the operand value.

Returns

return the string of the register

Implements Operand.

4.22.2.2 virtual t_OpType OPRegister::get_op_type ( ) [virtual]

get the operator type

Returns

return the Operand type as enum

Implements Operand.

4.22.2.3 int OPRegister::get_reg ( )

Get the Register value.

Returns

return the number of the Register

4.22.2.4 virtual string OPRegister::to_string ( ) [virtual]

tostring

Returns

return the Object as string

Implements Operand.

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

- OPRegister.h

4.23 Program Class Reference

class representing a program as list of lines

`#include <Program.h>`

Public Member Functions

- Program ()

  Empty constructor of a program.
- Program (Program const &otherprogram)

  Copy constructor of a program.
- Program (string const file)

  Constructor with the input file of program.
- ∼Program ()

  Destructor of program.
- void add_line (Line ∗newline)

  Add a line at the end of the program.
- int add_line_at (Line ∗newline, int position)

  Add a line to the program with position as index.
- void exchange_line (int line1, int line2)

  Reverse two lines which are at the index line1 and line2.
- void display ()

  display the program
- void del_line (int index)

  Delete the line at the given index in the program.
- Line ∗ find_line (int index)

  gives the line that corresponds to the index
- int size ()

  get the length of the program
- void in_file (string const filename)

  returns the dependance betwen the two given instructions
- bool is_empty ()

  return true if the program is Empty
- void comput_function ()

  calculate the functions of the program
- int nbr_func ()

  get the number of functions in the program

- Function ∗ get_function (int index)

  returns the function of index index in the list _myfunc
- list< Function ∗ >::iterator **function_list_begin** ()
- list< Function ∗ >::iterator **function_list_end** ()
- void flush ()

  empty the program
- void comput_CFG ()

  calculate the CFG associated with each function of the program
- Cfg ∗ get_CFG (int index)

  returns the CFG of index index in the list _myCFG

4.23.1 Detailed Description

class representing a program as list of lines

4.23.2 Member Function Documentation

4.23.2.1 void Program::in_file (string const *filename*)

returns the dependance betwen the two given instructions

Returns

returns the dependance in the enum formatwrite the programme into a file

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

- Program.h

4.24 s_Profile Struct Reference

Structure allowing to add caracteristics to an operator.

```
#include <Enum_type.h>
```

Public Attributes

- t_Operator **op**
- std::string **nom**
- t_Format **format**
- t_Inst **type**
- int **nb_oper**

4.24.1 Detailed Description

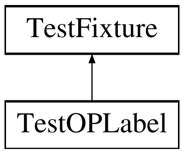
Structure allowing to add caracteristics to an operator.

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

- Enum_type.h

4.25 TestOPLabel Class Reference

Inheritance diagram for TestOPLabel:



Public Member Functions

- void **setUp** (void)
- void **tearDown** (void)

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

- TestOPLabel.h

4.26 utchn Struct Reference

Public Attributes

- struct utchn ∗ **NEXT**
- union utdat **DATA**

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

- utl200.h

4.27 utdat Union Reference

Public Attributes

- void ∗ **VPNT**
- float **FLOT**
- unsigned int **UINT**
- int **SINT**
- char **CHAR**
- unsigned char **UCHR**

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

- utl200.h

4.28 utdic Struct Reference

Public Attributes

- struct utdic ∗ **NEXT**

- struct utdit ∗ **TABLE**
- void ∗(∗ **ADD_K**)()
- void(∗ **FRE_K**)()
- int(∗ **CMP_K**)()
- void ∗(∗ **ADD_D**)()
- void(∗ **FRE_D**)()
- unsigned int(∗ **HSH_K**)()
- unsigned short **SIZE**
- unsigned short **SPEED**
- unsigned int **INIT**
- unsigned int **STATUS**
- unsigned int **FLAG**

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

- utl200.h

4.29 utdit Struct Reference

Public Attributes

- struct uttyp ∗ **ITEM**

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

- utl200.h

4.30 uttdc Struct Reference

Public Attributes

- struct uttdc ∗ **NEXT**
- union utdat **DAT1**
- union utdat **DAT2**
- union utdat **DAT3**

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

- utl200.h

4.31 uttpd Struct Reference

Public Attributes

- struct uttpd ∗ **NEXT**
- union utdat **DAT1**
- double **DAT2**

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

- utl200.h

4.32 uttyp Struct Reference

Public Attributes

- struct uttyp ∗ **NEXT**
- union utdat **DAT1**
- union utdat **DAT2**

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

- utl200.h

4.33 YYSTYPE Union Reference

Public Attributes

- struct utchn ∗ **pchn**
- unsigned int **uval**
- char ∗ **text**

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

- asm_mipsyac.h

Chapter 5

File Documentation

5.1 Basic_block.h File Reference

Basic_block class.

```
#include <Node.h>
#include <Instruction.h>
#include <string>
#include <stdio.h>
#include <Enum_type.h>
#include <fstream>
#include <list>
#include <Dfg.h>
#include <Node_dfg.h>
```

Classes

- class Basic_block

  class representing a Basic_block of a fonction

Macros

- #define **NB_REGISTRES** 32

5.1.1 Detailed Description

Basic_block class.

Author

Hajjem

5.2 Cfg.h File Reference

Cfg class.

```
#include <Basic_block.h>
#include <string>
#include <stdio.h>
#include <Label.h>
#include <Enum_type.h>
#include <list>
#include <fstream>
```

Classes

- class Cfg

  class representing control flow graph

5.2.1 Detailed Description

Cfg class.

Author

Hajjem

5.3 Dfg.h File Reference

Dfg class.

```
#include <Node_dfg.h>
#include <Instruction.h>
#include <Enum_type.h>
#include <fstream>
#include <list>
#include <boost/graph/adjacency_list.hpp>
#include <boost/graph/astar_search.hpp>
```

Classes

- class Dfg

  class representing a Dfg of a Basic block, a data flow graph that is to be used to calculate the critical path and schedule code

5.3.1 Detailed Description

Dfg class.

Author

Hajjem

5.4 Directive.h File Reference

Directive class.

```
#include <iostream>
#include <string>
#include <Enum_type.h>
#include <Line.h>
```

Classes

- class Directive

  class representing an Directive herited by Line

5.4.1 Detailed Description

Directive class.

Author

Hajjem

5.5 Function.h File Reference

Function class.

```
#include <Node.h>
#include <Basic_block.h>
#include <Instruction.h>
#include <string>
#include <stdio.h>
#include <Label.h>
#include <Enum_type.h>
#include <list>
#include <Cfg.h>
#include <fstream>
```

Classes

- class Function

  class representing a Function on a program

5.5.1 Detailed Description

Function class.

Author

Hajjem

5.6 Instruction.h File Reference

Instruction class.

```
#include <Operand.h>
#include <string>
#include <OPExpression.h>
#include <OPImmediate.h>
#include <OPLabel.h>
#include <Line.h>
#include <OPRegister.h>
#include <Enum_type.h>
#include <list>
```

Classes

- struct dep
- class Instruction

    class representing an instruction which herited by Line

5.6.1 Detailed Description

Instruction class.

Author

Hajjem - Heydemann - Girault

5.7 Label.h File Reference

Label class.

```
#include <iostream>
#include <string>
#include <Enum_type.h>
#include <Line.h>
```

Classes

- class Label

    class representing an Label herited by Line

5.7.1 Detailed Description

Label class.

Author

Hajjem

5.8 Line.h File Reference

Line class.

```
#include <iostream>
#include <string>
#include <Enum_type.h>
```

Classes

- class Line

  Abstract class representing an Line.

5.8.1 Detailed Description

Line class.

Author

Hajjem

5.9 Node.h File Reference

Node class.

```
#include <Line.h>
#include <string>
#include <Enum_type.h>
```

Classes

- class Node

  class representing a Node in list

5.9.1 Detailed Description

Node class.

Author

Hajjem

5.10 Node_dfg.h File Reference

Node_dfg class.

```
#include <Basic_block.h>
#include <string>
#include <stdio.h>
#include <Label.h>
#include <Enum_type.h>
```

Classes

- struct Arc_t
- class Node_dfg

  class representing a node of data flow graph

5.10.1 Detailed Description

Node_dfg class.

Author

Hajjem

5.11 Operand.h File Reference

Operand class.

```
#include <iostream>
#include <string>
#include <Enum_type.h>
```

Classes

- class Operand

  Abstract class representing an operand.

5.11.1 Detailed Description

Operand class.

Author

Hajjem

5.12 OPExpression.h File Reference

OPExpression class.

```
#include <iostream>
#include <string>
#include <Operand.h>
#include <Enum_type.h>
```

Classes

- class OPExpression

  class representing an expression herited by Operand

5.12.1 Detailed Description

OPExpression class.

Author

Hajjem

5.13 OPImmediate.h File Reference

OPImmediate class.

```
#include <iostream>
#include <string>
#include <Operand.h>
#include <Enum_type.h>
```

Classes

- class OPImmediate

    class representing an Immediate herited by Operand

5.13.1 Detailed Description

OPImmediate class.

Author

Hajjem

5.14 OPLabel.h File Reference

OPLabel class.

```
#include <iostream>
#include <Operand.h>
#include <Enum_type.h>
#include <string>
```

Classes

- class OPLabel

    class representing a Label herited by Operand

5.14.1 Detailed Description

OPLabel class.

Author

Hajjem

5.15 OPRegister.h File Reference

OPRegister class.

```
#include <iostream>
#include <string>
#include <Operand.h>
#include <Enum_type.h>
```

Classes

- class OPRegister

  class representing a Register herited by Operand

5.15.1 Detailed Description

OPRegister class.

Author

Hajjem

5.16 Program.h File Reference

Program class.

```
#include <Node.h>
#include <Function.h>
#include <Basic_block.h>
#include <Instruction.h>
#include <Directive.h>
#include <Cfg.h>
#include <string>
#include <stdio.h>
#include <Enum_type.h>
#include <fstream>
#include <list>
```

Classes

- class Program

  class representing a program as list of lines

5.16.1 Detailed Description

Program class.

Author

Hajjem

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