# General Quadratic Placer

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# Contents


**1 Namespace Index** **1**

1.1 Packages . . . . . 1

**2 Hierarchical Index** **3**

2.1 Class Hierarchy . . . . . 3

**3 Class Index** **5**

3.1 Class List . . . . . 5

**4 Namespace Documentation** **7**

4.1 gqp_placer Namespace Reference . . . . . 7

4.1.1 Detailed Description . . . . . 7

**5 Class Documentation** **9**

5.1 gqp_placer.mothercore Class Reference . . . . . 9

5.1.1 Constructor & Destructor Documentation . . . . . 10

5.1.1.1 __init__(self, side) . . . . . 10

5.1.2 Member Function Documentation . . . . . 10

5.1.2.1 get_numG(self) . . . . . 10

5.2 gqp_placer.MyError Class Reference . . . . . 10

5.2.1 Constructor & Destructor Documentation . . . . . 11

5.2.1.1 __init__(self, value) . . . . . 11

**Index** **13**

# Chapter 1

# Namespace Index

## 1.1 Packages

Here are the packages with brief descriptions (if available):

gqp_placer
General Quadratic Placer . . . . . 7

# Chapter 2

# Hierarchical Index

## 2.1 Class Hierarchy

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


Exception
    gqp_placer.MyError . . . . . 10
gqp_placer.mothercore . . . . . 9

# Chapter 3

# Class Index

## 3.1 Class List

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

gqp_placer.mothercore . . . . . 9
gqp_placer.MyError . . . . . 10

# Chapter 4

# Namespace Documentation

## 4.1 gqp_placer Namespace Reference

General Quadratic Placer.

### Classes

- class mothercore
- class MyError

### Functions

- def create (filename)

  *Creates the "mothercore" class from file.*
- def solveforx (core)

  *Solves the given core for locations of gates.*
- def writeback (core, filename)

  *Read and write back to given filename.*
- def assign (core, G, hORv, lORr)

  *Sorts the gates from the given core according to hORv and lORr 1 horizontal sort, then 1 vertical sort if needed.*
- def update_coordinates (coordinate, side)

  *Updates the coordinate according to bounding box.*
- def update_location (core, x, y, key)

  *Updates the location values given in the class.*
- def containNrun (core, side, hORv, lORr)

  *Contains half the gates in core within the bounding box and solves for gate locations.*
- def place (core, side, n)

  *Iterative Placer.*
- def main ()

  *Main.*

### 4.1.1 Detailed Description

General Quadratic Placer.

# Chapter 5

# Class Documentation

## 5.1 gqp_placer.mothercore Class Reference

### Public Member Functions

- def __init__ (self, side)

  *The constructor.*
- def get_numG (self)

  *Helper function to return the number of gates.*
- def get_numP (self)

  *Helper function to return the number of pads.*
- def get_numN (self)

  *Helper function to return the number of nets.*
- def set_side (self, side)

  *Helper function to set the side variable.*
- def get_gate (self)

  *Helper function to return a dictionary of gates.*
- def get_gateconnections (self, gatenum)

  *Helper function which returns the connections of given gate.*
- def **get_gatelocation** (self, gatenum)
- def **get_pad** (self)
- def **get_padlocation** (self, padnum)
- def **add_gate** (self, gatenum, listofconnections)
- def **add_pad** (self, padnum, netandlocation)
- def **add_net** (self, netnum, connection, gateorpad)
- def **add_netconns** (self, netnum, listofconnections)
- def **get_otherconns** (self, netnum, gatenum)
- def **get_nets** (self)
- def **add_location** (self, x, y, data)
- def add_sorted (self, sort)

  *Helper function to add a sorted list of gates.*
- def **get_sorted** (self)
- def **get_location** (self)

### Public Attributes

- gate

  *Dictionary of gates.*
- pad

  *Dictionary of pads.*
- numG

  *Number of gates.*
- numP

  *Number of pads.*
- numN

  *Number of nets.*
- side

  *List of 4 elements storing grid limits [xmin, xmax, ymin, ymax].*
- gateX

  *Dictionary of X coordinates.*
- gateY

  *Dictionary of Y coordinates.*
- nets

  *Dictionary of nets.*
- sortedgate

  *List of sorted gates.*

### 5.1.1 Constructor & Destructor Documentation

#### 5.1.1.1 def gqp_placer.mothercore.__init__ ( *self, side* )

The constructor.

### 5.1.2 Member Function Documentation

#### 5.1.2.1 def gqp_placer.mothercore.get_numG ( *self* )

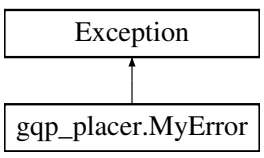
Helper function to return the number of gates.

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

- gqp_placer.py

## 5.2 gqp_placer.MyError Class Reference

Inheritance diagram for gqp_placer.MyError:



### Public Member Functions

- def __init__ (self, value)

  *The constructor.*

### Public Attributes

- **value**

## 5.2.1 Constructor & Destructor Documentation

#### 5.2.1.1 def gqp_placer.MyError.__init__ ( *self, value* )

The constructor.

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

- gqp_placer.py

# Index

__init__
    gqp_placer::MyError, 11
    gqp_placer::mothercore, 10

get_numG
    gqp_placer::mothercore, 10
gqp_placer, 7
gqp_placer.mothercore, 9
gqp_placer.MyError, 10
gqp_placer::MyError
    __init__, 11
gqp_placer::mothercore
    __init__, 10
    get_numG, 10