2023 iccad problem b Parse modfication

2023改動: parse

- Parse
  - 1.readfile.h - typedef struct _Libcell, terminal,
  - 2. readfile.cpp- readTechnologyInfo

Parse- readfile.h

- Libcell:多了 bool isMacro用來判斷是不是macro

```
typedef struct _Libcell
{
    char libCellName[LIBCELL_NAME_SIZE]; // MC1,MC2...
    int libCellSizeX;
    int libCellSizeY;
    int pinCount;
    vector<Pin> pinarray;
} Libcell;
```

多了:isMacro

```
typedef struct _Libcell
{
    char libCellName[LIBCELL_NAME_SIZE]; // MC1,MC2...
    int libCellSizeX;
    int libCellSizeY;
    int pinCount;
    bool isMacro;
    vector<Pin> pinarray;
} Libcell;
```

Parse- readfile.h

- Hybrid_terminal:多了int val用來記錄TerminalCost

```
typedef struct _terminal
{
    int sizeX;
    int sizeY;
    int spacing; // between terminals and
    vector<vector<int>> HBPlacementState;
} Hybrid_terminal;
```

多了:val

```
typedef struct _terminal
{
    int sizeX;
    int sizeY;
    int spacing; // between terminals and
    int val;
    vector<vector<int>> HBPlacementState;
} Hybrid_terminal;
```

readfile.cpp- readTechnologyInfo

- 改動readTechnologyInfo
- 判斷是否是macro並在Libcell中isMacro屬性去標示
  false: is cell
  true : is macro

Cell & Macro in case1

```
Tech <techName> <libCellCount>: TA 3:
        LibCell <isMacro> <libCellName> <libCellSizeX> <libCellSizeY> <pinCount>: 0 MC1 7 10 1
                Pin <pinName> <pinLocationX> <pinLocationY>: P1 2 7

        LibCell <isMacro> <libCellName> <libCellSizeX> <libCellSizeY> <pinCount>: 0 MC2 14 10 2
                Pin <pinName> <pinLocationX> <pinLocationY>: P1 10 4
                Pin <pinName> <pinLocationX> <pinLocationY>: P2 4 6

        LibCell <isMacro> <libCellName> <libCellSizeX> <libCellSizeY> <pinCount>: 1 MC3 17 12 3
                Pin <pinName> <pinLocationX> <pinLocationY>: P1 5 3
                Pin <pinName> <pinLocationX> <pinLocationY>: P2 3 6
                Pin <pinName> <pinLocationX> <pinLocationY>: P3 10 8



Tech <techName> <libCellCount>: TB 3:
        LibCell <isMacro> <libCellName> <libCellSizeX> <libCellSizeY> <pinCount>: 0 MC1 7 15 1
                Pin <pinName> <pinLocationX> <pinLocationY>: P1 2 11

        LibCell <isMacro> <libCellName> <libCellSizeX> <libCellSizeY> <pinCount>: 0 MC2 12 15 2
                Pin <pinName> <pinLocationX> <pinLocationY>: P1 5 12
                Pin <pinName> <pinLocationX> <pinLocationY>: P2 8 3

        LibCell <isMacro> <libCellName> <libCellSizeX> <libCellSizeY> <pinCount>: 1 MC3 18 18 3
                Pin <pinName> <pinLocationX> <pinLocationY>: P1 2 12
                Pin <pinName> <pinLocationX> <pinLocationY>: P2 3 3
                Pin <pinName> <pinLocationX> <pinLocationY>: P3 15 7
```

Hybrid_terminal information in case1

```
Hybrid Terminal Information:
TerminalSize <sizeX> <sizeY>: 6 6
TerminalSpacing <spacing>: 5
TerminalSpacing <value>: 10
```

Hmetis Result

Numterminal:Cut size calculated by hmetis

- Partition.h

```
typedef struct cellStruct{
    int netsNumber;                 //n
    vector <int> nets;              //a
    int WhichDie;                   //(
    int cellID;                     //t
    int libCellSizeX;
    int libCellSizeY;
    int rowID;
    int left_edge;
    int right_edge;
} Cell;

typedef struct _TopBottomCellArray{
    int BottomCellNumber;
    int TopCellNumber;
    vector <int> PartitionIndexResult;
    vector <Cell> BottomCellArray;
    vector <Cell> TopCellArray;
} TopBottomCellArray;
```

```
Numterminal = 1
0 0 1 1 1 1 1 0
<Bottom Die Data>: contains 3 Cells
Cell name: C1
Cell tech: TB
Been Partition In 0
Cell name: C2
Cell tech: TB
Been Partition In 0
Cell name: C8
Cell tech: TB
Been Partition In 0
<Top Die Data>: contains 5 Cells
Cell name: C3
Cell tech: TA
Been Partition In 1
Cell name: C4
Cell tech: TA
Been Partition In 1
Cell name: C5
Cell tech: TA
Been Partition In 1
Cell name: C6
Cell tech: TA
Been Partition In 1
Cell name: C7
Cell tech: TA
Been Partition In 1
```