

Algorithm

마방진 (Magic Square)

- 홀수만 처리 가능!

```
int size = 5;

int[][] arr = new int[size][size];
int middle = size/2;

int i=0, j=middle;
for(int num=1 ; num<=size*size ; num++) {
    arr[i][j] = num;
    //행 감소
    i--;
    if(i < 0)
        i = size-1;
    //열 증가
    j = (++j)%size;
    //아래 표현과 같다.
    /*j++;
    if(j >= size)
        j = 0;*/

    //배수이면 행은 1 증가, 열은 그대로
    if(num%size == 0) {
        i = (i+2)%size;
        j--;
        if(j < 0)
            j = size-1;
    }
}
```

Recursion

참조

Sort

합병 정렬 (Merge Sort)

참조

Radix Sort (기수 정렬)

[참조](#)

Search

Binary Search (이진 탐색)

[참조](#)

Dynamic Programming

```
private TreeSet<File> getSourceFiles(File srcDir) throws
FileNotFoundException {
    if (!srcDir.isFile() && srcDir.listFiles() == null)
        throw new FileNotFoundException("Not found source directory.");

    // 파일 이름순 정렬
    TreeSet<File> files = new TreeSet<File>(new Comparator<File>() {
        public int compare(File o1, File o2) {
            return o1.getPath().compareToIgnoreCase(o2.getPath());
        }
    });

    Stack<File> directories = new Stack<File>();
    directories.push(srcDir);

    // DFS
    while(!directories.isEmpty()) {
        File directory = directories.pop();

        for(File composite : directory.listFiles()) {
            if(composite.isDirectory()) {
                directories.push(composite);
            }
            else if(composite.isFile()) {
                files.add(composite);
            }
        }
    }

    return files;
}
```

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