

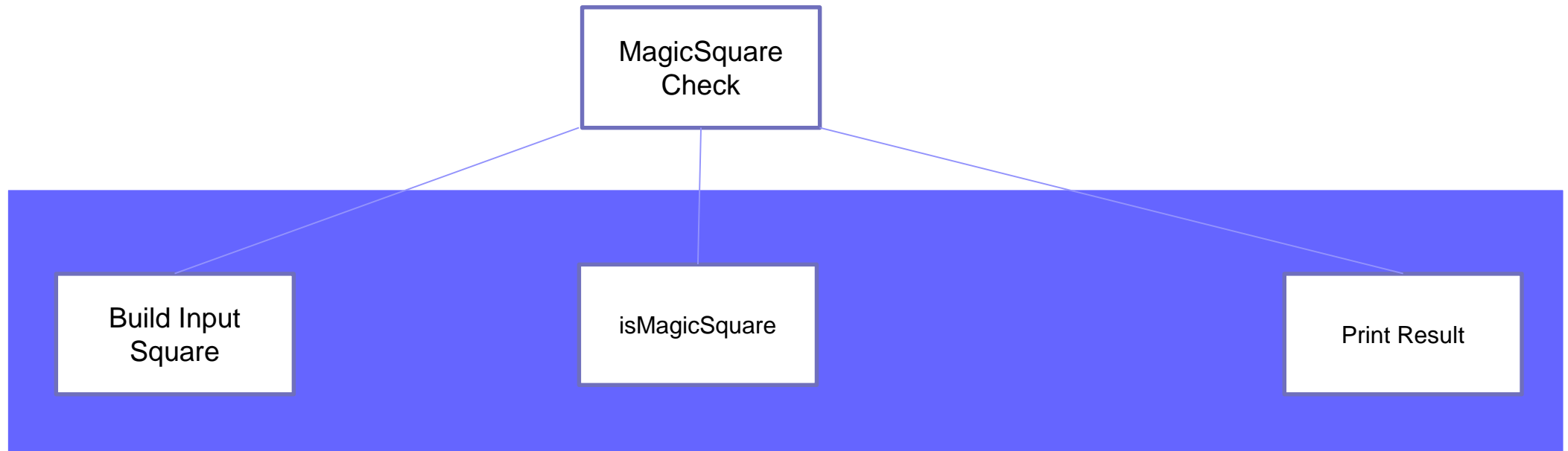
Lab 4 Discussion

Magic Square

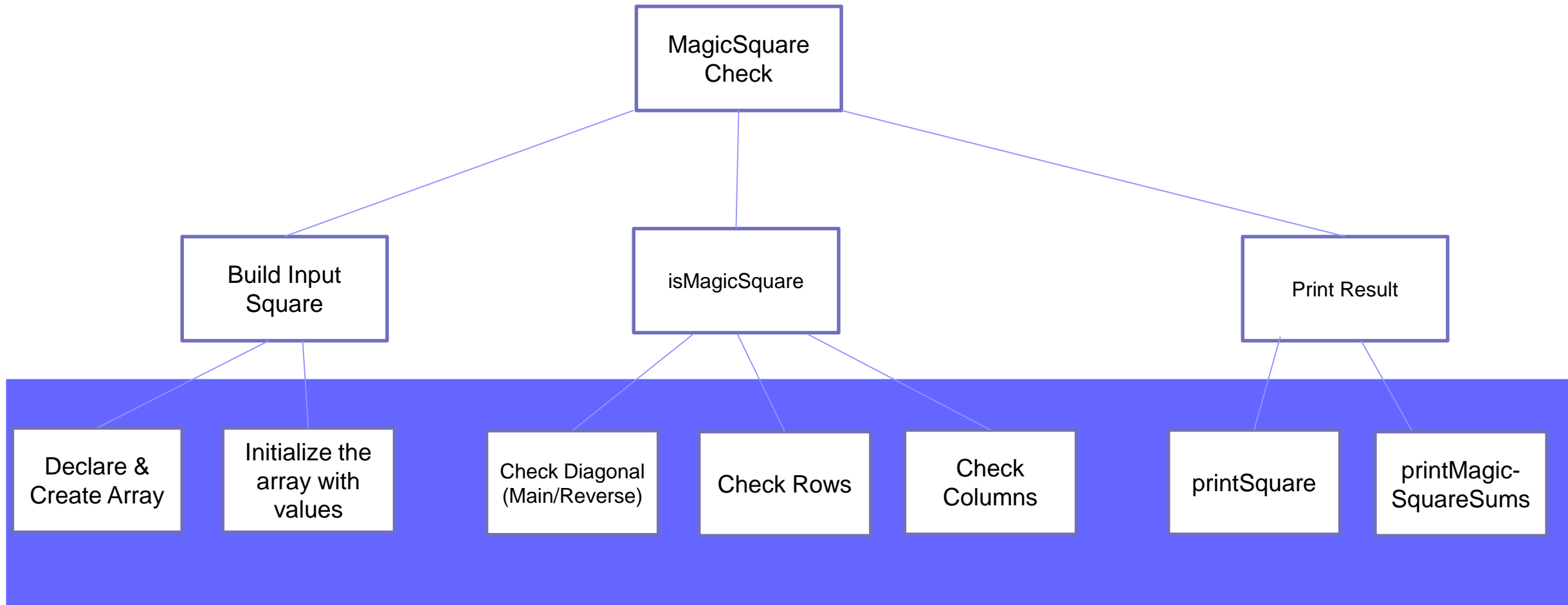
2	7	6	→15
9	5	1	→15
4	3	8	→15
↙15	↓15	↓15	↓15
			↘15

A magic square is a square matrix in which the sum of every row, every column, and both diagonals is the same.

Magic Square Validation – 1st and 2nd levels Refinements



Magic Square Validation – 1st, 2nd, and 3rd levels refinements



Sample input file

magicText.txt

1	3						
2	8	1	6				
3	3	5	7				
4	4	9	2				
5	7						
6	30	39	48	1	10	19	28
7	38	47	7	9	18	27	29
8	46	6	8	17	26	35	37
9	5	14	16	25	34	36	45
10	13	15	24	33	42	44	4
11	21	23	32	41	43	3	12
12	22	31	40	49	2	11	20
--	-						

Sample output file

```
----jGRASP exec: java MagicSquareTest

***** Square 1 *****
8 1 6
3 5 7
4 9 2
***** Square 1 *****

Sum of row 0 is: 15
Sum of row 1 is: 15
Sum of row 2 is: 15

Sum of column 0 is: 15
Sum of column 1 is: 15
Sum of column 2 is: 15

The sum of the main diagonal is: 15

The sum of the other diagonal is: 15

Is it a magic square: true
```

Sample code to compute sum for row

```
// Sample to compute sum for row
private int sumMagicRow(int row) {
    int sum = 0;
    for (int c = 0; c < square.length; c++) {
        sum += square[row][c];
    }
    return sum;
}
```