

블루트 포스

소스코드

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C++14

```
1 #include <iostream>
2 using namespace std;
3 bool broken[10];
4 int possible(int c) {
5     if (c == 0) {
6         if (broken[0]) {
7             return 0;
8         } else {
9             return 1;
10        }
11    }
12    int len = 0;
13    while (c > 0) {
14        if (broken[c % 10]) {
15            return 0;
16        }
17        len += 1;
18        c /= 10;
19    }
20    return len;
21 }
22 int main() {
23     int n;
24     cin >> n;
25     int m;
26     cin >> m;
27     for (int i = 0; i < m; i++) {
28         int x;
29         cin >> x;
30         broken[x] = true;
31     }
32     int ans = n - 100;
33     if (ans < 0) {
34         ans = -ans;
35     }
36     for (int i = 0; i <= 1000000; i++) {
37         int c = i;
38         int len = possible(c);
39         if (len > 0) {
40             int press = c - n;
41             if (press < 0) {
42                 press = -press;
43             }
44             if (ans > len + press) {
45                 ans = len + press;
46             }
47         }
48     }
49     printf("%d\n", ans);
50     return 0;
51 }
```

Handwritten annotations:

- Line 32: `int ans = n - 100;` is boxed.
- Line 33: `if (ans < 0) {` is boxed.
- Line 34: `ans = -ans;` is boxed.
- Line 38: `int len = possible(c);` is boxed.
- Line 40: `int press = c - n;` is boxed.
- Line 44: `if (ans > len + press) {` is boxed.
- Line 45: `ans = len + press;` is boxed.
- Line 38: A circled `len` is annotated with `len`.
- Line 40: A circled `press` is annotated with `press`.
- Line 45: A circled `len` and a circled `press` are annotated with `len + press`.

결과	메모리	시간	코드 길이
맞았습니다!!	1988 KB	16 ms	950 B

Java

```
1 import java.util.*;
2 public class Main {
3     static boolean[] broken = new boolean[10];
4     static int possible(int c) {
5         if (c == 0) {
6             if (broken[0]) {
7                 return 0;
8             } else {
9                 return 1;
10            }
11        }
12        int len = 0;
13        while (c > 0) {
14            if (broken[c % 10]) {
15                return 0;
16            }
17            len += 1;
18            c /= 10;
19        }
20        return len;
21    }
22    public static void main(String args[]) {
23        Scanner sc = new Scanner(System.in);
24        int n = sc.nextInt();
25        int m = sc.nextInt();
26        for (int i = 0; i < m; i++) {
27            int x = sc.nextInt();
28            broken[x] = true;
29        }
30        int ans = n - 100;
31        if (ans < 0) {
32            ans = -ans;
33        }
34        for (int i = 0; i <= 1000000; i++) {
35            int c = i;
36            int len = possible(c);
37            if (len > 0) {
38                int press = c - n;
39                if (press < 0) {
40                    press = -press;
41                }
42                if (ans > len + press) {
43                    ans = len + press;
44                }
45            }
46        }
47        System.out.println(ans);
48    }
49 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	11492 KB	144 ms	1226 B

Python 3

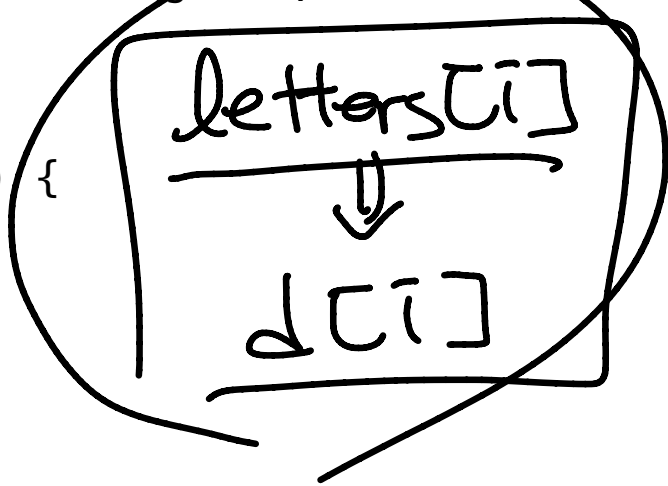
```
1 n = int(input())
2 m = int(input())
3 broken = [False] * 10
4 if m > 0:
5     a = list(map(int, input().split()))
6 else:
7     a = []
8 for x in a:
9     broken[x] = True
10 def possible(c):
11     if c == 0:
12         if broken[0]:
13             return 0
14         else:
15             return 1
16     l = 0
17     while c > 0:
18         if broken[c%10]:
19             return 0
20         l += 1
21         c //= 10
22     return l
23 ans = abs(n-100)
24 for i in range(0, 1000000+1):
25     c = i
26     l = possible(c)
27     if l > 0:
28         press = abs(c-n)
29         if ans > l + press:
30             ans = l + press
31 print(ans)
32
```

결과	메모리	시간	코드 길이
맞았습니다!!	29164 KB	1316 ms	597 B

C++14

```
1 #include <iostream>
2 #include <vector>
3 #include <algorithm>
4 #include <set>
5 #include <string>
6 using namespace std;
7 char alpha[256];
8 int calc(vector<string> &a, vector<char> &letters, vector<int> &d) {
9     int m = letters.size();
10    int sum = 0;
11    for (int i=0; i<m; i++) {
12        alpha[letters[i]] = d[i],
13    }
14    for (string s : a) {
15        int now = 0;
16        for (char x : s) {
17            now = now * 10 + alpha[x];
18        }
19        sum += now;
20    }
21    return sum;
22 }
23 int main() {
24     int n;
25     cin >> n;
26     vector<string> a(n);
27     vector<char> letters;
28     for (int i=0; i<n; i++) {
29         cin >> a[i];
30         for (char x : a[i]) {
31             letters.push_back(x);
32         }
33     }
34     sort(letters.begin(), letters.end());
35     letters.erase(unique(letters.begin(), letters.end(), letters.end()), letters.end());
36     int m = letters.size();
37     vector<int> d(m);
38     for (int i=9; i>9-m; i--) {
39         d.push_back(i);
40     }
41     sort(d.begin(), d.end());
42     int ans = 0;
43     do {
44         int now = calc(a, letters, d);
45         if (ans < now) {
46             ans = now;
47         }
48     } while (next_permutation(d.begin(), d.end()));
49     cout << ans << '\n';
50     return 0;
51 }
```

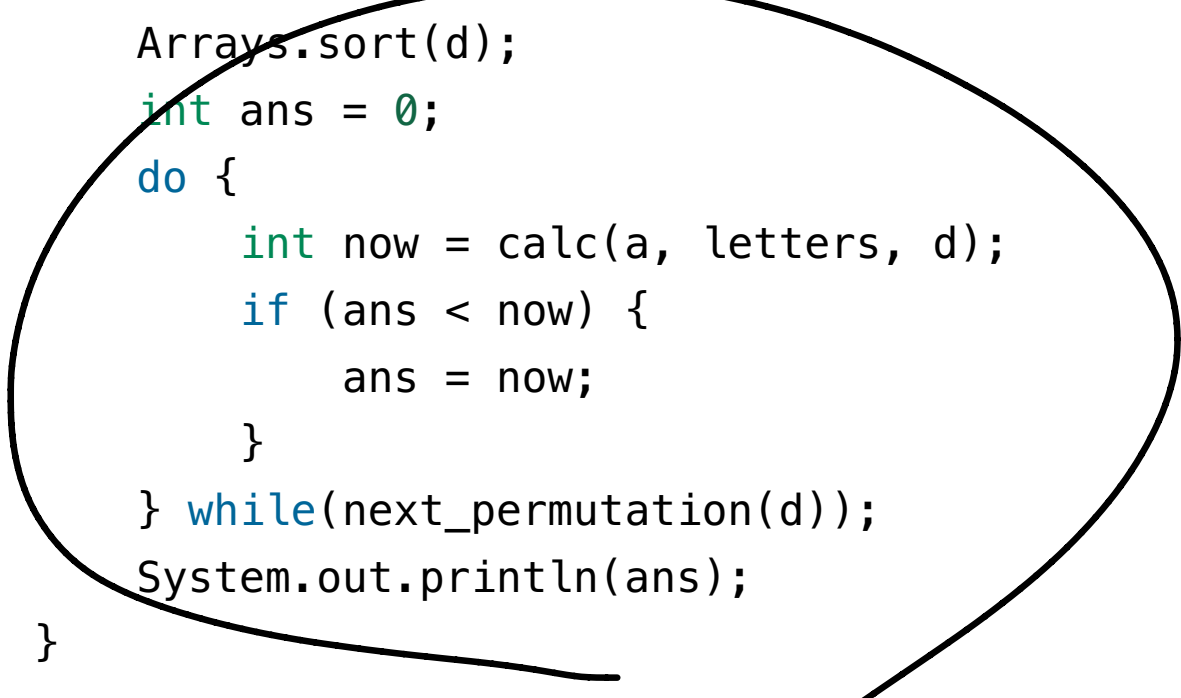
이런 할파씩



결과	메모리	시간	코드 길이
맞았습니다!!	1996 KB	572 ms	1170 B

Java

```
1 import java.util.*;
2 public class Main {
3     static boolean next_permutation(int[] a) {
4         int i = a.length-1;
5         while (i > 0 && a[i-1] >= a[i]) {
6             i -= 1;
7         }
8
9         if (i <= 0) {
10             return false;
11         }
12
13         int j = a.length-1;
14         while (a[j] <= a[i-1]) {
15             j -= 1;
16         }
17
18         int temp = a[i-1];
19         a[i-1] = a[j];
20         a[j] = temp;
21
22         j = a.length-1;
23         while (i < j) {
24             temp = a[i];
25             a[i] = a[j];
26             a[j] = temp;
27             i += 1;
28             j -= 1;
29         }
30         return true;
31     }
32     static int[] alpha = new int[256];
33     static int calc(String[] a, Character[] letters, int[] d) {
34         int m = letters.length;
35         int sum = 0;
36         for (int i=0; i<m; i++) {
37             alpha[letters[i]] = d[i];
38         }
39         for (String s : a) {
40             int now = 0;
41             for (char x : s.toCharArray()) {
42                 now = now * 10 + alpha[x];
43             }
44             sum += now;
45         }
46         return sum;
47     }
48     public static void main(String args[]) {
49         Scanner sc = new Scanner(System.in);
50         int n = sc.nextInt();
51         String[] a = new String[n];
52         HashSet<Character> s = new HashSet<>();
53         for (int i=0; i<n; i++) {
54             a[i] = sc.next();
55             for (char x : a[i].toCharArray()) {
56                 s.add(x);
57             }
58         }
59         Character[] letters = s.toArray(new Character[s.size()]);
60         int m = letters.length;
61         int[] d = new int[m];
62         for (int i=0; i<m; i++) {
63             d[i] = 9-i;
64         }
65         Arrays.sort(d);
66         int ans = 0;
67         do {
68             int now = calc(a, letters, d);
69             if (ans < now) {
70                 ans = now;
71             }
72         } while(next_permutation(d));
73         System.out.println(ans);
74     }
75 }
```

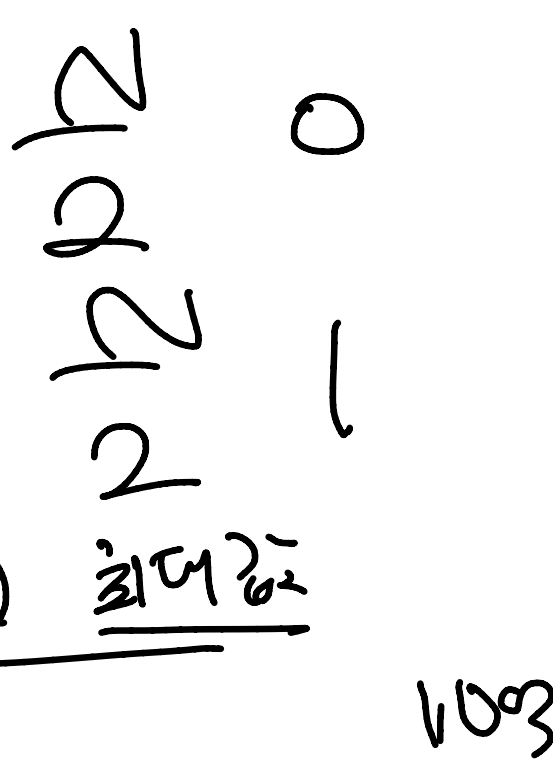


결과	메모리	시간	코드 길이
맞았습니다!!	186432 KB	1104 ms	1876 B



C++14

```
1 #include <iostream>
2 #include <vector>
3 #include <algorithm>
4 using namespace std;
5 int main() {
6     int n;
7     cin >> n;
8     vector<vector<int>> a(n, vector<int>(n));
9     for (int i=0; i<n; i++) {
10         for (int j=0; j<n; j++) {
11             cin >> a[i][j];
12         }
13     }
14     vector<int> b(n);
15     for (int i=0; i<n/2; i++) {
16         b[i] = 1;
17     }
18     sort(b.begin(), b.end());
19     int ans = 2147483647;
20     do {
21         vector<int> first, second;
22         for (int i=0; i<n; i++) {
23             if (b[i] == 0) {
24                 first.push_back(i);
25             } else {
26                 second.push_back(i);
27             }
28         }
29         int one = 0;
30         int two = 0;
31         for (int i=0; i<n/2; i++) {
32             for (int j=0; j<n/2; j++) {
33                 if (i == j) continue;
34                 one += a[first[i]][first[j]];
35                 two += a[second[i]][second[j]];
36             }
37         }
38         int diff = one-two;
39         if (diff < 0) diff = -diff;
40         if (ans > diff) ans = diff;
41     } while(next_permutation(b.begin(), b.end()));
42     cout << ans << '\n';
43     return 0;
44 }
```



결과	메모리	시간	코드 길이
맞았습니다!!	1988 KB	104 ms	1096 B

Java

```
1 import java.util.*;
2 public class Main {
3     static boolean next_permutation(int[] a) {
4         int i = a.length-1;
5         while (i > 0 && a[i-1] >= a[i]) {
6             i -= 1;
7         }
8
9         if (i <= 0) {
10             return false;
11         }
12
13         int j = a.length-1;
14         while (a[j] <= a[i-1]) {
15             j -= 1;
16         }
17
18         int temp = a[i-1];
19         a[i-1] = a[j];
20         a[j] = temp;
21
22         j = a.length-1;
23         while (i < j) {
24             temp = a[i];
25             a[i] = a[j];
26             a[j] = temp;
27             i += 1;
28             j -= 1;
29         }
30         return true;
31     }
32     public static void main(String args[]) {
33         Scanner sc = new Scanner(System.in);
34         int n = sc.nextInt();
35         int[][] a = new int[n][n];
36         for (int i=0; i<n; i++) {
37             for (int j=0; j<n; j++) {
38                 a[i][j] = sc.nextInt();
39             }
40         }
41         int[] b = new int[n];
42         for (int i=0; i<n/2; i++) {
43             b[i] = 1;
44         }
45         Arrays.sort(b);
46         int ans = 2147483647;
47         do {
48             ArrayList<Integer> first = new ArrayList<>();
49             ArrayList<Integer> second = new ArrayList<>();
50             for (int i=0; i<n; i++) {
51                 if (b[i] == 0) {
52                     first.add(i);
53                 } else {
54                     second.add(i);
55                 }
56             }
57             int one = 0;
58             int two = 0;
59             for (int i=0; i<n/2; i++) {
60                 for (int j=0; j<n/2; j++) {
61                     if (i == j) continue;
62                     one += a[first.get(i)][first.get(j)];
63                     two += a[second.get(i)][second.get(j)];
64                 }
65             }
66             int diff = one-two;
67             if (diff < 0) diff = -diff;
68             if (ans > diff) ans = diff;
69         } while(next_permutation(b));
70         System.out.println(ans);
71     }
72 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	49656 KB	736 ms	1897 B

C++14

```
1 #include <iostream>
2 #include <vector>
3 #include <algorithm>
4 using namespace std;
5 int s[20][20];
6 int n;
7 int go(int index, vector<int> &first, vector<int> &second) {
8     if (index == n) {
9         if (first.size() != n/2) return -1;
10        if (second.size() != n/2) return -1;
11        int t1 = 0;
12        int t2 = 0;
13        for (int i=0; i<n/2; i++) {
14            for (int j=0; j<n/2; j++) {
15                if (i == j) continue;
16                t1 += s[first[i]][first[j]];
17                t2 += s[second[i]][second[j]];
18            }
19        }
20        int diff = t1-t2;
21        if (diff < 0) diff = -diff;
22        return diff;
23    }
24    int ans = -1;
25    first.push_back(index);
26    int t1 = go(index+1, first, second);
27    if (ans == -1 || (t1 != -1 && ans > t1)) {
28        ans = t1;
29    }
30    first.pop_back();
31    second.push_back(index);
32    int t2 = go(index+1, first, second);
33    if (ans == -1 || (t2 != -1 && ans > t2)) {
34        ans = t2;
35    }
36    second.pop_back();
37    return ans;
38 }
39 int main() {
40     cin >> n;
41     for (int i=0; i<n; i++) {
42         for (int j=0; j<n; j++) {
43             cin >> s[i][j];
44         }
45     }
46     vector<int> first, second;
47     cout << go(0, first, second) << '\n';
48 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	1988 KB	36 ms	1205 B

Java

```
1 import java.util.*;
2 public class Main {
3     static int[][] s;
4     static int n;
5     static int go(int index, ArrayList<Integer> first, ArrayList<Integer> second) {
6         if (index == n) {
7             if (first.size() != n/2) return -1;
8             if (second.size() != n/2) return -1;
9             int t1 = 0;
10            int t2 = 0;
11            for (int i=0; i<n/2; i++) {
12                for (int j=0; j<n/2; j++) {
13                    if (i == j) continue;
14                    t1 += s[first.get(i)][first.get(j)];
15                    t2 += s[second.get(i)][second.get(j)];
16                }
17            }
18            int diff = Math.abs(t1-t2);
19            return diff;
20        }
21        int ans = -1;
22        first.add(index);
23        int t1 = go(index+1, first, second);
24        if (ans == -1 || (t1 != -1 && ans > t1)) {
25            ans = t1;
26        }
27        first.remove(first.size()-1);
28        second.add(index);
29        int t2 = go(index+1, first, second);
30        if (ans == -1 || (t2 != -1 && ans > t2)) {
31            ans = t2;
32        }
33        second.remove(second.size()-1);
34        return ans;
35    }
36    public static void main(String[] args) {
37        Scanner sc = new Scanner(System.in);
38        n = sc.nextInt();
39        s = new int[n][n];
40        for (int i=0; i<n; i++) {
41            for (int j=0; j<n; j++) {
42                s[i][j] = sc.nextInt();
43            }
44        }
45        ArrayList<Integer> first = new ArrayList<>();
46        ArrayList<Integer> second = new ArrayList<>();
47        System.out.println(go(0, first, second));
48    }
49 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	22940 KB	444 ms	1564 B

## C++14

```
1 #include <iostream>
2 #include <vector>
3 #include <algorithm>
4 using namespace std;
5 int s[20][20];
6 int n;
7 int go(int index, vector<int> &first, vector<int> &second) {
8     if (index == n) {
9         if (first.size() != n/2) return -1;
10        if (second.size() != n/2) return -1;
11        int t1 = 0;
12        int t2 = 0;
13        for (int i=0; i<n/2; i++) {
14            for (int j=0; j<n/2; j++) {
15                if (i == j) continue;
16                t1 += s[first[i]][first[j]];
17                t2 += s[second[i]][second[j]];
18            }
19        }
20        int diff = t1-t2;
21        if (diff < 0) diff = -diff;
22        return diff;
23    }
24    if (first.size() > n/2) return -1;
25    if (second.size() > n/2) return -1;
26    int ans = -1;
27    first.push_back(index);
28    int t1 = go(index+1, first, second);
29    if (ans == -1 || (t1 != -1 && ans > t1)) {
30        ans = t1;
31    }
32    first.pop_back();
33    second.push_back(index);
34    int t2 = go(index+1, first, second);
35    if (ans == -1 || (t2 != -1 && ans > t2)) {
36        ans = t2;
37    }
38    second.pop_back();
39    return ans;
40 }
41 int main() {
42     cin >> n;
43     for (int i=0; i<n; i++) {
44         for (int j=0; j<n; j++) {
45             cin >> s[i][j];
46         }
47     }
48     vector<int> first, second;
49     cout << go(0, first, second) << '\n';
50 }
```

결과

메모리

시간

코드 길이

맞았습니다!!

1988 KB

32 ms

1284 B



C++14

```
1 #include <iostream>
2 using namespace std;
3 bool a[15][15];
4 int n;
5 bool check_col[15];
6 bool check_dig[40];
7 bool check_dig2[40];
8 bool check(int row, int col) {
9     // |
10    if (check_col[col]) {
11        return false;
12    }
13    // 왼쪽 위 대각선
14    if (check_dig[row+col]) {
15        return false;
16    }
17    // 오른쪽 위 대각선
18    if (check_dig2[row-col+n]) {
19        return false;
20    }
21    return true;
22 }
23 int calc(int row) {
24     if (row == n) {
25         // ans += 1;
26         return 1;
27     }
28     int cnt = 0;
29     for (int col=0; col<n; col++) {
30         if (check(row, col)) {
31             check_dig[row+col] = true;
32             check_dig2[row-col+n] = true;
33             check_col[col] = true;
34             a[row][col] = true;
35             cnt += calc(row+1);
36             check_dig[row+col] = false;
37             check_dig2[row-col+n] = false;
38             check_col[col] = false;
39             a[row][col] = false;
40         }
41     }
42     return cnt;
43 }
44 int main() {
45     cin >> n;
46     cout << calc(0) << '\n';
47     return 0;
48 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	1988 KB	1764 ms	1000 B

Java

```
1 import java.util.*;
2 public class Main {
3     static boolean[][] a = new boolean[15][15];
4     static int n;
5     static boolean[] check_col = new boolean[15];
6     static boolean[] check_dig = new boolean[40];
7     static boolean[] check_dig2 = new boolean[40];
8     static boolean check(int row, int col) {
9         // |
10        if (check_col[col]) {
11            return false;
12        }
13        // 왼쪽 위 대각선
14        if (check_dig[row+col]) {
15            return false;
16        }
17        // /
18        if (check_dig2[row-col+n]) {
19            return false;
20        }
21        return true;
22    }
23    static int calc(int row) {
24        if (row == n) {
25            // ans += 1;
26            return 1;
27        }
28        int cnt = 0;
29        for (int col=0; col<n; col++) {
30            if (check(row, col)) {
31                check_dig[row+col] = true;
32                check_dig2[row-col+n] = true;
33                check_col[col] = true;
34                a[row][col] = true;
35                cnt += calc(row+1);
36                check_dig[row+col] = false;
37                check_dig2[row-col+n] = false;
38                check_col[col] = false;
39                a[row][col] = false;
40            }
41        }
42        return cnt;
43    }
44    public static void main(String args[]) {
45        Scanner sc = new Scanner(System.in);
46        n = sc.nextInt();
47        System.out.println(calc(0));
48    }
49 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	12352 KB	2896 ms	1382 B

C++14

```
1 #include <iostream>
2 #include <vector>
3 #include <algorithm>
4 using namespace std;
5 int s[20][20];
6 int main() {
7     int n;
8     cin >> n;
9     for (int i=0; i<n; i++) {
10         for (int j=0; j<n; j++) {
11             cin >> s[i][j];
12         }
13     }
14     int ans = -1;
15     for (int i=0; i<(1<<n); i++) {
16         vector<int> first, second;
17         for (int j=0; j<n; j++) {
18             if (i&(1<<j)) {
19                 first.push_back(j);
20             } else {
21                 second.push_back(j);
22             }
23         }
24         if (first.size() != n/2) continue;
25         int t1 = 0;
26         int t2 = 0;
27         for (int l1=0; l1<n/2; l1++) {
28             for (int l2=0; l2<n/2; l2++) {
29                 if (l1 == l2) continue;
30                 t1 += s[first[l1]][first[l2]];
31                 t2 += s[second[l1]][second[l2]];
32             }
33         }
34         int diff = t1-t2;
35         if (diff < 0) diff = -diff;
36         if (ans == -1 || ans > diff) {
37             ans = diff;
38         }
39     }
40     cout << ans << '\n';
41 }
```

Handwritten notes:

- Diagram of a 2D array with indices 0 to 19, showing a path from (0,0) to (19,19) with a value of 1.
- Diagram of a 1D array with indices 0 to 19, showing a path from (0,0) to (19,19) with a value of 1.
- Diagram of a 1D array with indices 0 to 19, showing a path from (0,0) to (19,19) with a value of 1.

결과	메모리	시간	코드 길이
맞았습니다!!	1988 KB	432 ms	1002 B

Java

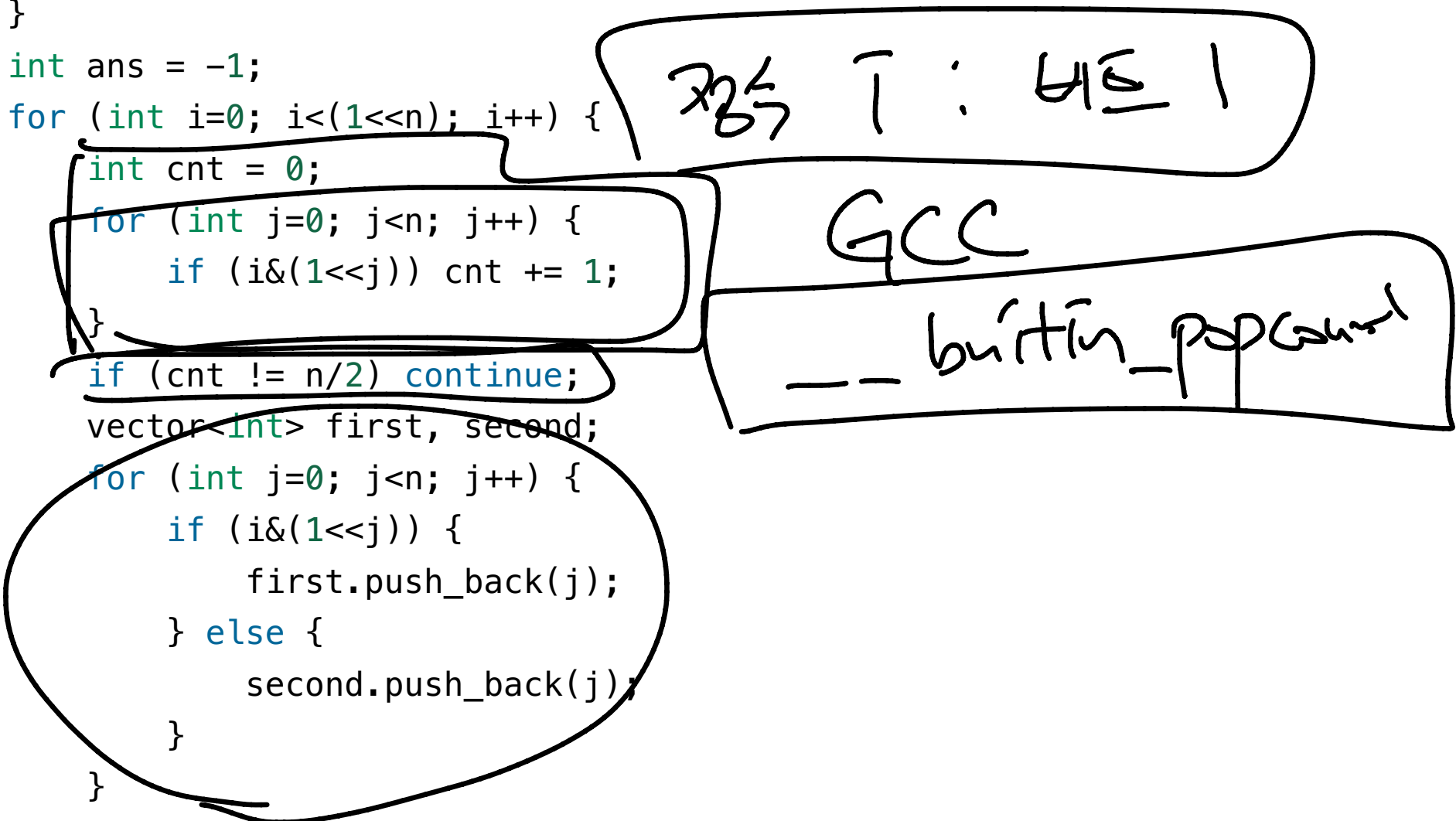
```
1 import java.util.*;
2 public class Main {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         int n = sc.nextInt();
6         int[][] s = new int[n][n];
7         for (int i=0; i<n; i++) {
8             for (int j=0; j<n; j++) {
9                 s[i][j] = sc.nextInt();
10             }
11         }
12         int ans = -1;
13         for (int i=0; i<(1<<n); i++) {
14             ArrayList<Integer> first = new ArrayList<>();
15             ArrayList<Integer> second = new ArrayList<>();
16             for (int j=0; j<n; j++) {
17                 if ((i&(1<<j)) == 0) {
18                     first.add(j);
19                 } else {
20                     second.add(j);
21                 }
22             }
23             if (first.size() != n/2) continue;
24             int t1 = 0;
25             int t2 = 0;
26             for (int l1=0; l1<n/2; l1++) {
27                 for (int l2=0; l2<n/2; l2++) {
28                     if (l1 == l2) continue;
29                     t1 += s[first.get(l1)][first.get(l2)];
30                     t2 += s[second.get(l1)][second.get(l2)];
31                 }
32             }
33             int diff = Math.abs(t1-t2);
34             if (ans == -1 || ans > diff) {
35                 ans = diff;
36             }
37         }
38         System.out.println(ans);
39     }
40 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	85876 KB	848 ms	1268 B



C++14

```
1 #include <iostream>
2 #include <vector>
3 #include <algorithm>
4 using namespace std;
5 int s[20][20];
6 int main() {
7     int n;
8     cin >> n;
9     for (int i=0; i<n; i++) {
10         for (int j=0; j<n; j++) {
11             cin >> s[i][j];
12         }
13     }
14     int ans = -1;
15     for (int i=0; i<(1<<n); i++) {
16         int cnt = 0;
17         for (int j=0; j<n; j++) {
18             if (i&(1<<j)) cnt += 1;
19         }
20         if (cnt != n/2) continue;
21         vector<int> first, second;
22         for (int j=0; j<n; j++) {
23             if (i&(1<<j)) {
24                 first.push_back(j);
25             } else {
26                 second.push_back(j);
27             }
28         }
29         int t1 = 0;
30         int t2 = 0;
31         for (int l1=0; l1<n/2; l1++) {
32             for (int l2=0; l2<n/2; l2++) {
33                 if (l1 == l2) continue;
34                 t1 += s[first[l1]][first[l2]];
35                 t2 += s[second[l1]][second[l2]];
36             }
37         }
38         int diff = t1-t2;
39         if (diff < 0) diff = -diff;
40         if (ans == -1 || ans > diff) {
41             ans = diff;
42         }
43     }
44     cout << ans << '\n';
45 }
46
```



결과	메모리	시간	코드 길이
맞았습니다!!	1988 KB	124 ms	1095 B

Java

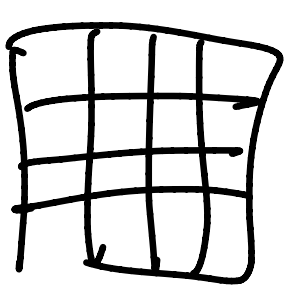
```
1 import java.util.*;
2 public class Main {
3     public static void main(String[] args) {
4         Scanner sc = new Scanner(System.in);
5         int n = sc.nextInt();
6         int[][] s = new int[n][n];
7         for (int i=0; i<n; i++) {
8             for (int j=0; j<n; j++) {
9                 s[i][j] = sc.nextInt();
10             }
11         }
12         int ans = -1;
13         for (int i=0; i<(1<<n); i++) {
14             int cnt = 0;
15             for (int j=0; j<n; j++) {
16                 if ((i&(1<<j)) == 0) {
17                     cnt += 1;
18                 }
19             }
20             if (cnt != n/2) continue;
21             ArrayList<Integer> first = new ArrayList<>();
22             ArrayList<Integer> second = new ArrayList<>();
23             for (int j=0; j<n; j++) {
24                 if ((i&(1<<j)) == 0) {
25                     first.add(j);
26                 } else {
27                     second.add(j);
28                 }
29             }
30             int t1 = 0;
31             int t2 = 0;
32             for (int l1=0; l1<n/2; l1++) {
33                 for (int l2=0; l2<n/2; l2++) {
34                     if (l1 == l2) continue;
35                     t1 += s[first.get(l1)][first.get(l2)];
36                     t2 += s[second.get(l1)][second.get(l2)];
37                 }
38             }
39             int diff = Math.abs(t1-t2);
40             if (ans == -1 || ans > diff) {
41                 ans = diff;
42             }
43         }
44         System.out.println(ans);
45     }
46 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	48548 KB	576 ms	1423 B

C++14

```
1 #include <iostream>
2 #include <cstdio>
3 using namespace std;
4 int a[4][4];
5 int main() {
6     int n, m;
7     scanf("%d %d",&n,&m);
8     for (int i=0; i<n; i++) {
9         for (int j=0; j<m; j++) {
10             scanf("%1d",&a[i][j]);
11         }
12     }
13     int ans = 0;
14     // 0: -, 1 : |
15     for (int s=0; s<(1<<(n*m)); s++) {
16         int sum = 0;
17         for (int i=0; i<n; i++) {
18             int cur = 0;
19             for (int j=0; j<m; j++) {
20                 int k = i*m+j;
21                 if ((s&(1<<k)) == 0) {
22                     cur = cur * 10 + a[i][j];
23                 } else {
24                     sum += cur;
25                     cur = 0;
26                 }
27             }
28             sum += cur;
29         }
30         for (int j=0; j<m; j++) {
31             int cur = 0;
32             for (int i=0; i<n; i++) {
33                 int k = i*m+j;
34                 if ((s&(1<<k)) != 0) {
35                     cur = cur * 10 + a[i][j];
36                 } else {
37                     sum += cur;
38                     cur = 0;
39                 }
40             }
41             sum += cur;
42         }
43         ans = max(ans,sum);
44     }
45     cout << ans << '\n';
46     return 0;
47 }
```

$n, m$



$nm$  |  $0/1$

가로

$(i, j)$  칸

$i \times m + j$

4230 | 0

결과

결과	메모리	시간	코드 길이
맞았습니다!!	1988 KB	8 ms	1140 B

Java

```
1 import java.util.*;
2 public class Main {
3     public static void main(String args[]) {
4         Scanner sc = new Scanner(System.in);
5         int n = sc.nextInt();
6         int m = sc.nextInt();
7         int[][] a = new int[n][m];
8         for (int i=0; i<n; i++) {
9             String s = sc.next();
10             for (int j=0; j<m; j++) {
11                 a[i][j] = s.charAt(j)-'0';
12             }
13         }
14         int ans = 0;
15         // 0: -, 1 : |
16         for (int s=0; s<(1<<(n*m)); s++) {
17             int sum = 0;
18             for (int i=0; i<n; i++) {
19                 int cur = 0;
20                 for (int j=0; j<m; j++) {
21                     int k = i*m+j;
22                     if ((s&(1<<k)) == 0) {
23                         cur = cur * 10 + a[i][j];
24                     } else {
25                         sum += cur;
26                         cur = 0;
27                     }
28                 }
29                 sum += cur;
30             }
31             for (int j=0; j<m; j++) {
32                 int cur = 0;
33                 for (int i=0; i<n; i++) {
34                     int k = i*m+j;
35                     if ((s&(1<<k)) != 0) {
36                         cur = cur * 10 + a[i][j];
37                     } else {
38                         sum += cur;
39                         cur = 0;
40                     }
41                 }
42                 sum += cur;
43             }
44             ans = Math.max(ans,sum);
45         }
46         System.out.println(ans);
47     }
48 }
```

결과

메모리

시간

코드 길이

결과	메모리	시간	코드 길이
맞았습니다!!	12464 KB	176 ms	1431 B



결과	메모리	시간	코드 길이
망았습니다다!!	1992 KB	52 ms	2896 B

```
1 import java.util.*;
```

결과	메모리	시간	코드 길이
정답은 아님			



## C++14

```

1 #include <iostream>
2 #include <cassert>
3 #include <vector>
4 #include <string>
5 using namespace std;
6 int dx[] = {0,0,1,-1};
7 int dy[] = {1,-1,0,0};
8 const int LIMIT = 5;
9 vector<int> gen(int k) {
10     vector<int> a(LIMIT);
11     for (int i=0; i<LIMIT; i++) {
12         a[i] = (k&3);
13         k >>= 2;
14     }
15     return a;
16 }
17 void print(vector<vector<pair<int,bool>>> &a) {
18     int n = a.size();
19     for (int i=0; i<n; i++) {
20         for (int j=0; j<n; j++) {
21             cout << a[i][j].first << ' ';
22         }
23         cout << '\n';
24     }
25 }
26 int check(vector<vector<int>> &a, vector<int> &dirs) {
27     int n = a.size();
28     vector<vector<pair<int,bool>>> d(n, vector<pair<int,bool>>(n));
29     for (int i=0; i<n; i++) {
30         for (int j=0; j<n; j++) {
31             d[i][j].first = a[i][j];
32         }
33     }
34     // 0: down, 1: up, 2: left, 3: right
35     for (int dir : dirs) {
36         bool ok = false;
37         for (int i=0; i<n; i++) {
38             for (int j=0; j<n; j++) {
39                 d[i][j].second = false;
40             }
41         }
42         while (true) {
43             ok = false;
44             if (dir == 0) {
45                 for (int i=n-2; i>=0; i--) {
46                     for (int j=0; j<n; j++) {
47                         if (d[i][j].first == 0) continue;
48                         if (d[i+1][j].first == 0) {
49                             d[i+1][j].first = d[i][j].first;
50                             d[i+1][j].second = d[i][j].second;
51                             d[i][j].first = 0;
52                             ok = true;
53                         } else if (d[i+1][j].first == d[i][j].first) {
54                             if (d[i][j].second == false && d[i+1][j].second == false) {
55                                 d[i+1][j].first *= 2;
56                                 d[i+1][j].second = true;
57                                 d[i][j].first = 0;
58                                 ok = true;
59                             }
60                         }
61                     }
62                 }
63             } else if (dir == 1) {
64                 for (int i=1; i<n; i++) {
65                     for (int j=0; j<n; j++) {
66                         if (d[i][j].first == 0) continue;
67                         if (d[i-1][j].first == 0) {
68                             d[i-1][j].first = d[i][j].first;
69                             d[i-1][j].second = d[i][j].second;
70                             d[i][j].first = 0;
71                             ok = true;
72                         } else if (d[i-1][j].first == d[i][j].first) {
73                             if (d[i][j].second == false && d[i-1][j].second == false) {
74                                 d[i-1][j].first *= 2;
75                                 d[i-1][j].second = true;
76                                 d[i][j].first = 0;
77                                 ok = true;
78                             }
79                         }
80                     }
81                 }
82             } else if (dir == 2) {
83                 for (int j=1; j<n; j++) {
84                     for (int i=0; i<n; i++) {
85                         if (d[i][j].first == 0) continue;
86                         if (d[i][j-1].first == 0) {
87                             d[i][j-1].first = d[i][j].first;
88                             d[i][j-1].second = d[i][j].second;
89                             d[i][j].first = 0;
90                             ok = true;
91                         } else if (d[i][j-1].first == d[i][j].first) {
92                             if (d[i][j].second == false && d[i][j-1].second == false) {
93                                 d[i][j-1].first *= 2;
94                                 d[i][j-1].second = true;
95                                 d[i][j].first = 0;
96                                 ok = true;
97                             }
98                         }
99                     }
100                 }
101             } else if (dir == 3) {
102                 for (int j=n-2; j>=0; j--) {
103                     for (int i=0; i<n; i++) {
104                         if (d[i][j].first == 0) continue;
105                         if (d[i][j+1].first == 0) {
106                             d[i][j+1].first = d[i][j].first;
107                             d[i][j+1].second = d[i][j].second;
108                             d[i][j].first = 0;
109                             ok = true;
110                         } else if (d[i][j+1].first == d[i][j].first) {
111                             if (d[i][j].second == false && d[i][j+1].second == false) {
112                                 d[i][j+1].first *= 2;
113                                 d[i][j+1].second = true;
114                                 d[i][j].first = 0;
115                                 ok = true;
116                             }
117                         }
118                     }
119                 }
120             }
121             if (ok == false) break;
122         }
123     }
124     int ans = 0;
125     for (int i=0; i<n; i++) {
126         for (int j=0; j<n; j++) {
127             if (ans < d[i][j].first) {
128                 ans = d[i][j].first;
129             }
130         }
131     }
132     return ans;
133 }
134 int main() {
135     int n;
136     cin >> n;
137     vector<vector<int>> a(n, vector<int>(n));
138     for (int i=0; i<n; i++) {
139         for (int j=0; j<n; j++) {
140             cin >> a[i][j];
141         }
142     }
143     int ans = 0;
144     for (int k=0; k<(1<<(LIMIT*2)); k++) {
145         vector<int> dir = gen(k);
146         int cur = check(a, dir);
147         if (ans < cur) ans = cur;
148     }
149     cout << ans << '\n';
150     return 0;
151 }

```

결과	메모리	시간	코드 길이
맞았습니다!!	1988 KB	64 ms	5346 B

## Java

```

1 import java.util.*;
2 public class Main {
3     static int[] dx = {0,0,1,-1};
4     static int[] dy = {1,-1,0,0};
5     static final int LIMIT = 5;
6     static int[] gen(int k) {
7         int[] a = new int[LIMIT];
8         for (int i=0; i<LIMIT; i++) {
9             a[i] = (k&3);
10            k >>= 2;
11        }
12        return a;
13    }
14    static int check(int[][] a, int[] dirs) {
15        int n = a.length;
16        int[][] d = new int[n][n];
17        boolean[][] merged = new boolean[n][n];
18        for (int i=0; i<n; i++) {
19            for (int j=0; j<n; j++) {
20                d[i][j] = a[i][j];
21            }
22        }
23        // 0: down, 1: up, 2: left, 3: right
24        for (int dir : dirs) {
25            boolean ok = false;
26            for (int i=0; i<n; i++) {
27                for (int j=0; j<n; j++) {
28                    merged[i][j] = false;
29                }
30            }
31            while (true) {
32                ok = false;
33                if (dir == 0) {
34                    for (int i=n-2; i>=0; i--) {
35                        for (int j=0; j<n; j++) {
36                            if (d[i][j] == 0) continue;
37                            if (d[i+1][j] == 0) {
38                                d[i+1][j] = d[i][j];
39                                merged[i+1][j] = merged[i][j];
40                                d[i][j] = 0;
41                                ok = true;
42                            } else if (d[i+1][j] == d[i][j]) {
43                                if (merged[i][j] == false && merged[i+1][j] == false) {
44                                    d[i+1][j] *= 2;
45                                    merged[i+1][j] = true;
46                                    d[i][j] = 0;
47                                    ok = true;
48                                }
49                            }
50                        }
51                    }
52                } else if (dir == 1) {
53                    for (int i=1; i<n; i++) {
54                        for (int j=0; j<n; j++) {
55                            if (d[i][j] == 0) continue;
56                            if (d[i-1][j] == 0) {
57                                d[i-1][j] = d[i][j];
58                                merged[i-1][j] = merged[i][j];
59                                d[i][j] = 0;
60                                ok = true;
61                            } else if (d[i-1][j] == d[i][j]) {
62                                if (merged[i][j] == false && merged[i-1][j] == false) {
63                                    d[i-1][j] *= 2;
64                                    merged[i-1][j] = true;
65                                    d[i][j] = 0;
66                                    ok = true;
67                                }
68                            }
69                        }
70                    }
71                } else if (dir == 2) {
72                    for (int j=1; j<n; j++) {
73                        for (int i=0; i<n; i++) {
74                            if (d[i][j] == 0) continue;
75                            if (d[i][j-1] == 0) {
76                                d[i][j-1] = d[i][j];
77                                merged[i][j-1] = merged[i][j];
78                                d[i][j] = 0;
79                                ok = true;
80                            } else if (d[i][j-1] == d[i][j]) {
81                                if (merged[i][j] == false && merged[i][j-1] == false) {
82                                    d[i][j-1] *= 2;
83                                    merged[i][j-1] = true;
84                                    d[i][j] = 0;
85                                    ok = true;
86                                }
87                            }
88                        }
89                    }
90                } else if (dir == 3) {
91                    for (int j=n-2; j>=0; j--) {
92                        for (int i=0; i<n; i++) {
93                            if (d[i][j] == 0) continue;
94                            if (d[i][j+1] == 0) {
95                                d[i][j+1] = d[i][j];
96                                merged[i][j+1] = merged[i][j];
97                                d[i][j] = 0;
98                                ok = true;
99                            } else if (d[i][j+1] == d[i][j]) {
100                                if (merged[i][j] == false && merged[i][j+1] == false) {
101                                    d[i][j+1] *= 2;
102                                    merged[i][j+1] = true;
103                                    d[i][j] = 0;
104                                    ok = true;
105                                }
106                            }
107                        }
108                    }
109                }
110                if (ok == false) break;
111            }
112        }
113        int ans = 0;
114        for (int i=0; i<n; i++) {
115            for (int j=0; j<n; j++) {
116                if (ans < d[i][j]) {
117                    ans = d[i][j];
118                }
119            }
120        }
121        return ans;
122    }
123    public static void main(String args[]) {
124        Scanner sc = new Scanner(System.in);
125        int n = sc.nextInt();
126        int[][] a = new int[n][n];
127        for (int i=0; i<n; i++) {
128            for (int j=0; j<n; j++) {
129                a[i][j] = sc.nextInt();
130            }
131        }
132        int ans = 0;
133        for (int k=0; k<(1<<(LIMIT*2)); k++) {
134            int[] dir = gen(k);
135            int cur = check(a, dir);
136            if (ans < cur) ans = cur;
137        }
138        System.out.println(ans);
139    }
140 }

```

결과	메모리	시간	코드 길이
맞았습니다!!	25392 KB	728 ms	5418 B



C++14

```
1 #include <iostream>
2 #include <vector>
3 #include <algorithm>
4 using namespace std;
5 int main() {
6     int n, s;
7     cin >> n >> s;
8     vector<int> a(n);
9     for (int i=0; i<n; i++) {
10         cin >> a[i] ;
11     }
12     int m = n/2;
13     n = n-m;
14     vector<int> first(1<<n);
15     for (int i=0; i<(1<<n); i++) {
16         for (int k=0; k<n; k++) {
17             if (i&(1<<k)) {
18                 first[i] += a[k];
19             }
20         }
21     }
22     vector<int> second(1<<m);
23     for (int i=0; i<(1<<m); i++) {
24         for (int k=0; k<m; k++) {
25             if (i&(1<<k)) {
26                 second[i] += a[k+n];
27             }
28         }
29     }
30     sort(first.begin(), first.end());
31     sort(second.begin(), second.end());
32     reverse(second.begin(), second.end());
33     n = (1<<n);
34     m = (1<<m);
35     int i = 0;
36     int j = 0;
37     long long ans = 0;
38     while (i < n && j < m) {
39         if (first[i] + second[j] == s) {
40             long long c1 = 1;
41             long long c2 = 1;
42             i += 1;
43             j += 1;
44             while (i < n && first[i] == first[i-1]) {
45                 c1 += 1;
46                 i += 1;
47             }
48             while (j < m && second[j] == second[j-1]) {
49                 c2 += 1;
50                 j += 1;
51             }
52             ans += c1*c2;
53         } else if (first[i] + second[j] < s) {
54             i += 1;
55         } else {
56             j += 1;
57         }
58     }
59     if (s == 0) ans -= 1;
60     cout << ans << '\n';
61     return 0;
62 }
```

$M = \frac{N}{2}$

$N-M$

$N-M$

$N-M$

$M$

$N$

결과	메모리	시간	코드 길이
맞았습니다!!	10188 KB	264 ms	1444 B

```
1 #include <stdio.h>
2 #include <stdlib.h>
3 int a[40];
4 int first[1<<20];
5 int second[1<<20];
6 int cmp(const void *u, const void *v) {
7     if (*(int *)u > *(int *)v) {
8         return 1;
9     } else {
10         return -1;
11     }
12 }
13 int main() {
14     int n, s;
15     scanf("%d %d",&n,&s);
16     for (int i=0; i<n; i++) {
17         scanf("%d",&a[i]);
18     }
19     int m = n/2;
20     n = n-m;
21     for (int i=0; i<(1<<n); i++) {
22         for (int k=0; k<n; k++) {
23             if (i&(1<<k)) {
24                 first[i] += a[k];
25             }
26         }
27     }
28     for (int i=0; i<(1<<m); i++) {
29         for (int k=0; k<m; k++) {
30             if (i&(1<<k)) {
31                 second[i] += a[k+n];
32             }
33         }
34     }
35     n = (1<<n);
36     m = (1<<m);
37     qsort(first, n, sizeof(int), cmp);
38     qsort(second, m, sizeof(int), cmp);
39     for (int i=0; i<m/2; i++) {
40         int temp = second[i];
41         second[i] = second[m-i-1];
42         second[m-i-1] = temp;
43     }
44     int i = 0;
45     int j = 0;
46     long long ans = 0;
47     while (i < n && j < m) {
48         if (first[i] + second[j] == s) {
49             long long c1 = 1;
50             long long c2 = 1;
51             i += 1;
52             j += 1;
53             while (i < n && first[i] == first[i-1]) {
54                 c1 += 1;
55                 i += 1;
56             }
57             while (j < m && second[j] == second[j-1]) {
58                 c2 += 1;
59                 j += 1;
60             }
61             ans += c1*c2;
62         } else if (first[i] + second[j] < s) {
63             i += 1;
64         } else {
65             j += 1;
66         }
67     }
68     if (s == 0) ans -= 1;
69     printf("%lld\n",ans);
70     return 0;
71 }
```

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결과	메모리	시간	코드 길이
맞았습니다!!	13408 KB	312 ms	1605 B

Java

```
1 import java.util.*;
2
3 public class Main {
4     public static void main(String args[]) {
5         Scanner sc = new Scanner(System.in);
6         int n = sc.nextInt();
7         int s = sc.nextInt();
8         int[] a = new int[n];
9         for (int i=0; i<n; i++) {
10             a[i] = sc.nextInt();
11         }
12         int m = n/2;
13         n = n-m;
14         int[] first = new int[1<<n];
15         for (int i=0; i<(1<<n); i++) {
16             for (int k=0; k<n; k++) {
17                 if ((i&(1<<k)) == (1<<k)) {
18                     first[i] += a[k];
19                 }
20             }
21         }
22         int[] second = new int[1<<m];
23         for (int i=0; i<(1<<m); i++) {
24             for (int k=0; k<m; k++) {
25                 if ((i&(1<<k)) == (1<<k)) {
26                     second[i] += a[k+n];
27                 }
28             }
29         }
30         Arrays.sort(first);
31         Arrays.sort(second);
32         n = (1<<n);
33         m = (1<<m);
34         for (int i=0; i<m/2; i++) {
35             int temp = second[i];
36             second[i] = second[m-i-1];
37             second[m-i-1] = temp;
38         }
39         int i = 0;
40         int j = 0;
41         long ans = 0;
42         while (i < n && j < m) {
43             if (first[i] + second[j] == s) {
44                 long c1 = 1;
45                 long c2 = 1;
46                 i += 1;
47                 j += 1;
48                 while (i < n && first[i] == first[i-1]) {
49                     c1 += 1;
50                     i += 1;
51                 }
52                 while (j < m && second[j] == second[j-1]) {
53                     c2 += 1;
54                     j += 1;
55                 }
56                 ans += c1*c2;
57             } else if (first[i] + second[j] < s) {
58                 i += 1;
59             } else {
60                 j += 1;
61             }
62         }
63         if (s == 0) ans -= 1;
64
65         System.out.println(ans);
66     }
67 }
```

$M = \frac{N}{2}$

$N-M$

$N-M$

$N-M$

$M$

$N$

결과	메모리	시간	코드 길이
맞았습니다!!	30292 KB	968 ms	1823 B

C++14

```
1 #include <cstdio>
2 #include <algorithm>
3 #include <vector>
4 using namespace std;
5 int main() {
6     int n;
7     scanf("%d",&n);
8     vector<int> a(n),b(n),c(n),d(n);
9     for (int i=0; i<n; i++) {
10         scanf("%d %d %d %d",&a[i],&b[i],&c[i],&d[i]);
11     }
12     vector<int> first, second;
13     for (int i=0; i<n; i++) {
14         for (int j=0; j<n; j++) {
15             first.push_back(a[i]+b[j]);
16             second.push_back(c[i]+d[j]);
17         }
18     }
19     sort(second.begin(),second.end());
20     long long ans = 0;
21     for (int num: first) {
22         auto range = equal_range(second.begin(), second.end(), -num);
23         ans += range.second-range.first;
24     }
25     printf("%lld\n",ans);
26     return 0;
27 }
```

$O(N^2 \log N)$

결과	메모리	시간	코드 길이
맞았습니다!!	165232 KB	1200 ms	689 B

Java

```
1 import java.util.*;
2 import java.io.*;
3 public class Main {
4     static int upper_bound(int[] a, int val) {
5         int left = 0;
6         int right = a.length;
7         while (left < right) {
8             int mid = (left + right) / 2;
9             if (a[mid] <= val) {
10                 left = mid + 1;
11             } else {
12                 right = mid;
13             }
14         }
15         return left;
16     }
17     static int lower_bound(int[] a, int val) {
18         int left = 0;
19         int right = a.length;
20         while (left < right) {
21             int mid = (left + right) / 2;
22             if (a[mid] >= val) {
23                 right = mid;
24             } else {
25                 left = mid + 1;
26             }
27         }
28         return left;
29     }
30     public static void main(String args[]) throws IOException {
31         BufferedReader bf = new BufferedReader(new InputStreamReader(System.in));
32         int n = Integer.valueOf(bf.readLine());
33         int[] a = new int[n];
34         int[] b = new int[n];
35         int[] c = new int[n];
36         int[] d = new int[n];
37         for (int i=0; i<n; i++) {
38             String[] line = bf.readLine().split(" ");
39             a[i] = Integer.valueOf(line[0]);
40             b[i] = Integer.valueOf(line[1]);
41             c[i] = Integer.valueOf(line[2]);
42             d[i] = Integer.valueOf(line[3]);
43         }
44         int[] first = new int[n*n];
45         int[] second = new int[n*n];
46         int p=0;
47         for (int i=0; i<n; i++) {
48             for (int j=0; j<n; j++) {
49                 first[p] = a[i]+b[j];
50                 second[p] = c[i] + d[j];
51                 p += 1;
52             }
53         }
54         Arrays.sort(second);
55         long ans = 0;
56         for (int num : first) {
57             int lower = lower_bound(second, -num);
58             int upper = upper_bound(second, -num);
59             ans += upper - lower;
60         }
61         System.out.println(ans);
62     }
63 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	144256 KB	2228 ms	1884 B



끝

---

# 코드 플러스

<https://code.plus>

- 슬라이드에 포함된 소스 코드를 보려면 "정보 수정 > 백준 온라인 저지 연동"을 통해 연동한 다음, "백준 온라인 저지"에 로그인해야 합니다.
- 강의 내용에 대한 질문은 코드 플러스의 "질문 게시판"에서 할 수 있습니다.
- 문제와 소스 코드는 슬라이드에 첨부된 링크를 통해서 볼 수 있으며, "백준 온라인 저지"에서 서비스됩니다.
- 슬라이드와 동영상 강의는 코드 플러스 사이트를 통해서만 볼 수 있으며, 동영상 강의의 녹화와 다운로드, 배포와 유통은 저작권법에 의해서 금지되어 있습니다.
- 다른 경로로 이 슬라이드나 동영상 강의를 본 경우에는 [codeplus@startlink.io](mailto:codeplus@startlink.io) 로 이메일 보내주세요.
- 강의 내용, 동영상 강의, 슬라이드, 첨부되어 있는 소스 코드의 저작권은 스타트링크와 최백준에게 있습니다.