

브레이크 푸스

소스코드

최백준 choi@startlink.io



C++14

```
1 #include <iostream>
2 #include <vector>
3 #include <algorithm>
4 using namespace std;
5 int check(vector<string>&a) {
6     int n = a.size();
7     int ans = 1;
8     for (int i=0; i<n; i++) {
9         int cnt = 1;
10        for (int j=1; j<n; j++) {
11            if (a[i][j] == a[i][j-1]) {
12                cnt += 1;
13            } else {
14                cnt = 1;
15            }
16            if (ans < cnt) ans = cnt;
17        }
18        cnt = 1;
19        for (int j=1; j<n; j++) {
20            if (a[j][i] == a[j-1][i]) {
21                cnt += 1;
22            } else {
23                cnt = 1;
24            }
25            if (ans < cnt) ans = cnt;
26        }
27    }
28    return ans;
29 }
30 int main() {
31     int n;
32     cin >> n;
33     vector<string> a(n);
34     for (int i=0; i<n; i++) {
35         cin >> a[i];
36     }
37     int ans = 0;
38     for (int i=0; i<n; i++) {
39         for (int j=0; j<n; j++) {
40             if (j+1 < n) {
41                 swap(a[i][j], a[i][j+1]);
42                 int temp = check(a);
43                 if (ans < temp) ans = temp;
44                 swap(a[i][j], a[i][j+1]);
45             }
46             if (i+1 < n) {
47                 swap(a[i][j], a[i+1][j]);
48                 int temp = check(a);
49                 if (ans < temp) ans = temp;
50                 swap(a[i][j], a[i+1][j]);
51             }
52         }
53     }
54     cout << ans << '\n';
55     return 0;
56 }
57
```

Cnt: 현재 연속
길이
이러
2 1 2 2 2 3
cnt=1 2 1 1 1 2 3 1
O(N²)

두 개
N²
N²
O(N⁴)

결과	메모리	시간	코드 길이
맞았습니다!!	2020 KB	28 ms	1328 B

Java 8

```
1 import java.util.*;
2 public class Main {
3     static int check(char[][] a) {
4         int n = a.length;
5         int ans = 1;
6         for (int i=0; i<n; i++) {
7             int cnt = 1;
8             for (int j=1; j<n; j++) {
9                 if (a[i][j] == a[i][j-1]) {
10                     cnt += 1;
11                 } else {
12                     cnt = 1;
13                 }
14                 if (ans < cnt) ans = cnt;
15             }
16             cnt = 1;
17             for (int j=1; j<n; j++) {
18                 if (a[j][i] == a[j-1][i]) {
19                     cnt += 1;
20                 } else {
21                     cnt = 1;
22                 }
23                 if (ans < cnt) ans = cnt;
24             }
25         }
26         return ans;
27     }
28     public static void main(String[] args) {
29         Scanner sc = new Scanner(System.in);
30         int n = sc.nextInt();
31         char[][] a = new char[n][n];
32         for (int i=0; i<n; i++) {
33             a[i] = sc.next().toCharArray();
34         }
35         int ans = 0;
36         for (int i=0; i<n; i++) {
37             for (int j=0; j<n; j++) {
38                 if (j+1 < n) {
39                     char t = a[i][j]; a[i][j] = a[i][j+1]; a[i][j+1] = t;
40                     int temp = check(a);
41                     if (ans < temp) ans = temp;
42                     t = a[i][j]; a[i][j] = a[i][j+1]; a[i][j+1] = t;
43                 }
44                 if (i+1 < n) {
45                     char t = a[i][j]; a[i][j] = a[i+1][j]; a[i+1][j] = t;
46                     int temp = check(a);
47                     if (ans < temp) ans = temp;
48                     t = a[i][j]; a[i][j] = a[i+1][j]; a[i+1][j] = t;
49                 }
50             }
51         }
52         System.out.println(ans);
53     }
54 }
55
```

결과	메모리	시간	코드 길이
맞았습니다!!	14944 KB	164 ms	1683 B

Python 3

```
1 def check(a):
2     n = len(a)
3     ans = 1
4     for i in range(n):
5         cnt = 1
6         for j in range(1, n):
7             if a[i][j] == a[i][j-1]:
8                 cnt += 1
9             else:
10                cnt = 1
11            if ans < cnt:
12                ans = cnt
13        cnt = 1
14        for j in range(1, n):
15            if a[j][i] == a[j-1][i]:
16                cnt += 1
17            else:
18                cnt = 1
19            if ans < cnt:
20                ans = cnt
21    return ans
22
23 n = int(input())
24 a = [list(input()) for _ in range(n)]
25 ans = 0
26 for i in range(n):
27     for j in range(n):
28         if j+1 < n:
29             a[i][j],a[i][j+1] = a[i][j+1],a[i][j]
30             temp = check(a)
31             if ans < temp:
32                 ans = temp
33             a[i][j],a[i][j+1] = a[i][j+1],a[i][j]
34         if i+1 < n:
35             a[i][j],a[i+1][j] = a[i+1][j],a[i][j]
36             temp = check(a)
37             if ans < temp:
38                 ans = temp
39             a[i][j],a[i+1][j] = a[i+1][j],a[i][j]
40 print(ans)
41
42
43
```

결과	메모리	시간	코드 길이
맞았습니다!!	29284 KB	3284 ms	1006 B

C++14

```
1 #include <iostream>
2 #include <vector>
3 #include <algorithm>
4 using namespace std;
5 int check(vector<string> &a, int start_row, int end_row, int start_col, int end_col) {
6     int n = a.size();
7     int ans = 1;
8     for (int i=start_row; i<=end_row; i++) {
9         int cnt = 1;
10        for (int j=1; j<n; j++) {
11            if (a[i][j] == a[i][j-1]) {
12                cnt += 1;
13            } else {
14                cnt = 1;
15            }
16            if (ans < cnt) ans = cnt;
17        }
18    }
19    for (int i=start_col; i<=end_col; i++) {
20        int cnt = 1;
21        for (int j=1; j<n; j++) {
22            if (a[j][i] == a[j-1][i]) {
23                cnt += 1;
24            } else {
25                cnt = 1;
26            }
27            if (ans < cnt) ans = cnt;
28        }
29    }
30    return ans;
31 }
32 int main() {
33     int n;
34     cin >> n;
35     vector<string> a(n);
36     for (int i=0; i<n; i++) {
37         cin >> a[i];
38     }
39     int ans = 0;
40     for (int i=0; i<n; i++) {
41         for (int j=0; j<n; j++) {
42             if (j+1 < n) {
43                 swap(a[i][j], a[i][j+1]);
44                 int temp = check(a, i, i, j, j+1);
45                 if (ans < temp) ans = temp;
46                 swap(a[i][j], a[i][j+1]);
47             }
48             if (i+1 < n) {
49                 swap(a[i][j], a[i+1][j]);
50                 int temp = check(a, i, i+1, j, j);
51                 if (ans < temp) ans = temp;
52                 swap(a[i][j], a[i+1][j]);
53             }
54         }
55     }
56     cout << ans << '\n';
57     return 0;
58 }
59
```

Handwritten notes and diagrams for the C++ code:

- Annotations on line 5: `vector<string> &a` is circled.
- Annotations on line 36: `for (int i=0; i<n; i++)` is annotated with "1번씩" (once each).
- Annotations on line 44: `int temp = check(a, i, i, j, j+1);` is annotated with "1번씩" and "2번씩" (twice each).
- Annotations on line 50: `int temp = check(a, i, i+1, j, j);` is annotated with "1번씩" and "2번씩" (twice each).
- Diagram showing the state of the array after swaps: `(1, 2) -> (2, 1)` and `(1, 3) -> (3, 1)`.

결과	메모리	시간	코드 길이
맞았습니다!!	2020 KB	0 ms	1482 B

Java 8

```
1 import java.util.*;
2 public class Main {
3     static int check(char[][] a, int start_row, int end_row, int start_col, int end_col) {
4         int n = a.length;
5         int ans = 1;
6         for (int i=start_row; i<=end_row; i++) {
7             int cnt = 1;
8             for (int j=1; j<n; j++) {
9                 if (a[i][j] == a[i][j-1]) {
10                     cnt += 1;
11                 } else {
12                     cnt = 1;
13                 }
14                 if (ans < cnt) ans = cnt;
15             }
16         }
17         for (int i=start_col; i<=end_col; i++) {
18             int cnt = 1;
19             for (int j=1; j<n; j++) {
20                 if (a[j][i] == a[j-1][i]) {
21                     cnt += 1;
22                 } else {
23                     cnt = 1;
24                 }
25                 if (ans < cnt) ans = cnt;
26             }
27         }
28         return ans;
29     }
30     public static void main(String[] args) {
31         Scanner sc = new Scanner(System.in);
32         int n = sc.nextInt();
33         char[][] a = new char[n][n];
34         for (int i=0; i<n; i++) {
35             a[i] = sc.next().toCharArray();
36         }
37         int ans = 0;
38         for (int i=0; i<n; i++) {
39             for (int j=0; j<n; j++) {
40                 if (j+1 < n) {
41                     char t = a[i][j]; a[i][j] = a[i][j+1]; a[i][j+1] = t;
42                     int temp = check(a, i, i, j, j+1);
43                     if (ans < temp) ans = temp;
44                     t = a[i][j]; a[i][j] = a[i][j+1]; a[i][j+1] = t;
45                 }
46                 if (i+1 < n) {
47                     char t = a[i][j]; a[i][j] = a[i+1][j]; a[i+1][j] = t;
48                     int temp = check(a, i, i+1, j, j);
49                     if (ans < temp) ans = temp;
50                     t = a[i][j]; a[i][j] = a[i+1][j]; a[i+1][j] = t;
51                 }
52             }
53         }
54         System.out.println(ans);
55     }
56 }
57
```

Handwritten notes and diagrams for the Java code:

- Annotations on line 3: `int start_row, int end_row, int start_col, int end_col` is circled.

결과	메모리	시간	코드 길이
맞았습니다!!	14492 KB	136 ms	1845 B

Python 3

```
1 def check(a, start_row, end_row, start_col, end_col):
2     n = len(a)
3     ans = 1
4     for i in range(start_row, end_row+1):
5         cnt = 1
6         for j in range(1, n):
7             if a[i][j] == a[i][j-1]:
8                 cnt += 1
9             else:
10                cnt = 1
11                if ans < cnt:
12                    ans = cnt
13    for i in range(start_col, end_col+1):
14        cnt = 1
15        for j in range(1, n):
16            if a[j][i] == a[j-1][i]:
17                cnt += 1
18            else:
19                cnt = 1
20                if ans < cnt:
21                    ans = cnt
22    return ans
23
24 n = int(input())
25 a = [list(input()) for _ in range(n)]
26 ans = 0
27 for i in range(n):
28     for j in range(n):
29         if j+1 < n:
30             a[i][j],a[i][j+1] = a[i][j+1],a[i][j]
31             temp = check(a, i, i, j, j+1)
32             if ans < temp:
33                 ans = temp
34             a[i][j],a[i][j+1] = a[i][j+1],a[i][j]
35         if i+1 < n:
36             a[i][j],a[i+1][j] = a[i+1][j],a[i][j]
37             temp = check(a, i, i+1, j, j)
38             if ans < temp:
39                 ans = temp
40             a[i][j],a[i+1][j] = a[i+1][j],a[i][j]
41 print(ans)
42
43
44
```

Handwritten notes and diagrams for the Python code:

- Annotations on line 1: `start_row, end_row, start_col, end_col` is circled.

결과	메모리	시간	코드 길이
맞았습니다!!	29076 KB	168 ms	1135 B

C++14

```
1 #include <iostream>
2 using namespace std;
3 int main() {
4     int E, S, M;
5     cin >> E >> S >> M;
6     int e=1, s=1, m=1;
7     for (int i=1;; i++) {
8         if (e == E && s == S && m == M) {
9             cout << i << '\n';
10            break;
11        }
12        e += 1;
13        s += 1;
14        m += 1;
15        if (e == 16) {
16            e = 1;
17        }
18        if (s == 29) {
19            s = 1;
20        }
21        if (m == 20) {
22            m = 1;
23        }
24    }
25    return 0;
26 }
```

Handwritten notes for C++14 solution:

- 1-28 (circled)
- 15 28 19 (circled)
- 1년 (1 year)
- (e, s, m) (circled)
- 1년: 1년 (1 year: 1 year)
- 15-28 (circled)
- S=28 (circled)

결과	메모리	시간	코드 길이
맞았습니다!!	1984 KB	0 ms	471 B

Java 8

```
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 E = sc.nextInt();
7         int S = sc.nextInt();
8         int M = sc.nextInt();
9         int e=1,s=1,m=1;
10        for (int i=1;; i++) {
11            if (e == E && s == S && m == M) {
12                System.out.println(i);
13                break;
14            }
15            e += 1;
16            s += 1;
17            m += 1;
18            if (e == 16) {
19                e = 1;
20            }
21            if (s == 29) {
22                s = 1;
23            }
24            if (m == 20) {
25                m = 1;
26            }
27        }
28    }
29 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	14228 KB	108 ms	667 B

Python 3

```
1 E,S,M = map(int,input().split())
2 e,s,m = 1,1,1
3 year = 1
4 while True:
5     if e == E and s == S and m == M:
6         print(year)
7         break
8     e += 1
9     s += 1
10    m += 1
11    if e == 16:
12        e = 1
13    if s == 29:
14        s = 1
15    if m == 20:
16        m = 1
17    year += 1
```

Handwritten notes for Python 3 solution:

- year: e, s, m (circled)

결과	메모리	시간	코드 길이
맞았습니다!!	29284 KB	60 ms	275 B

C++14

```
1 #include <iostream>
2 using namespace std;
3 int main() {
4     int e,s,m;
5     cin >> e >> s >> m;
6     e -= 1;
7     s -= 1;
8     m -= 1;
9     for (int i=0;; i++) {
10         if (i % 15 == e && i % 28 == s && i % 19 == m) {
11             cout << i+1 << '\n';
12             break;
13         }
14     }
15 }
```

$e \rightarrow 15, s \rightarrow 28, m \rightarrow 19$

$(15, 28, 19)$

$\frac{1}{15}, \frac{1}{28}, \frac{1}{19}$

결과	메모리	시간	코드 길이
맞았습니다!!	1984 KB	0 ms	281 B

Java 8

```
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 e = sc.nextInt()-1;
7         int s = sc.nextInt()-1;
8         int m = sc.nextInt()-1;
9         for (int i=0;; i++) {
10             if (i % 15 == e && i % 28 == s && i % 19 == m) {
11                 System.out.println(i+1);
12                 break;
13             }
14         }
15     }
16 }
17
```

결과	메모리	시간	코드 길이
맞았습니다!!	14240 KB	108 ms	414 B

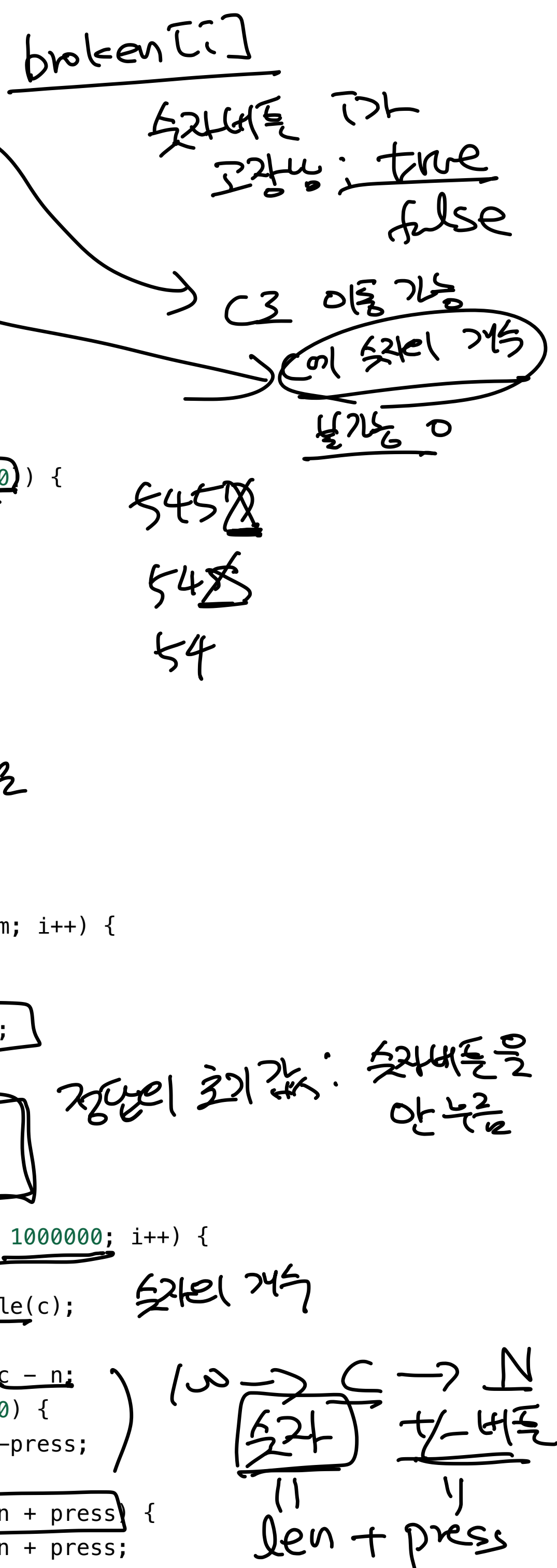
Python 3

```
1 e,s,m = map(int,input().split())
2 e -= 1
3 s -= 1
4 m -= 1
5 year = 0
6 while True:
7     if year % 15 == e and year % 28 == s and year % 19 == m:
8         print(year+1)
9         break
10     year += 1
```

결과	메모리	시간	코드 길이
맞았습니다!!	29284 KB	60 ms	185 B

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 }
```



결과	메모리	시간	코드 길이
맞았습니다!!	1988 KB	12 ms	950 B

Java 8

```
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 }
```

broken

결과	메모리	시간	코드 길이
맞았습니다!!	14356 KB	132 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)
```

C가 이동 가능
C의 숫자

결과	메모리	시간	코드 길이
맞았습니다!!	29056 KB	1308 ms	566 B

C++14

```
1 #include <iostream>
2 using namespace std;
3 int a[500][500];
4 int main() {
5     int n, m;
6     cin >> n >> m;
7     for (int i=0; i<n; i++) {
8         for (int j=0; j<m; j++) {
9             cin >> a[i][j];
10        }
11    }
12    int ans = 0;
13    for (int i=0; i<n; i++) {
14        for (int j=0; j<m; j++) {
15            if (j+3 < m) {
16                int temp = a[i][j] + a[i][j+1] + a[i][j+2] + a[i][j+3];
17                if (ans < temp) ans = temp;
18            }
19            if (i+3 < n) {
20                int temp = a[i][j] + a[i+1][j] + a[i+2][j] + a[i+3][j];
21                if (ans < temp) ans = temp;
22            }
23            if (i+1 < n && j+2 < m) {
24                int temp = a[i][j] + a[i+1][j] + a[i+1][j+1] + a[i+1][j+2];
25                if (ans < temp) ans = temp;
26            }
27            if (i+2 < n && j+1 < m) {
28                int temp = a[i][j] + a[i][j+1] + a[i+1][j] + a[i+2][j];
29                if (ans < temp) ans = temp;
30            }
31            if (i+1 < n && j+2 < m) {
32                int temp = a[i][j] + a[i][j+1] + a[i+1][j+1] + a[i+1][j+2];
33                if (ans < temp) ans = temp;
34            }
35            if (i+2 < n && j-1 >= 0) {
36                int temp = a[i][j] + a[i+1][j] + a[i+2][j] + a[i+2][j-1];
37                if (ans < temp) ans = temp;
38            }
39            if (i-1 >= 0 && j+2 < m) {
40                int temp = a[i][j] + a[i][j+1] + a[i][j+2] + a[i-1][j+2];
41                if (ans < temp) ans = temp;
42            }
43            if (i+2 < n && j+1 < m) {
44                int temp = a[i][j] + a[i+1][j] + a[i+2][j] + a[i+2][j+1];
45                if (ans < temp) ans = temp;
46            }
47            if (i+1 < n && j+2 < m) {
48                int temp = a[i][j] + a[i][j+1] + a[i+1][j+2] + a[i+1][j];
49                if (ans < temp) ans = temp;
50            }
51            if (i+2 < n && j+1 < m) {
52                int temp = a[i][j] + a[i][j+1] + a[i+1][j+1] + a[i+2][j+1];
53                if (ans < temp) ans = temp;
54            }
55            if (i+1 < n && j+1 < m) {
56                int temp = a[i][j] + a[i][j+1] + a[i+1][j] + a[i+1][j+1];
57                if (ans < temp) ans = temp;
58            }
59            if (i-1 >= 0 && j+2 < m) {
60                int temp = a[i][j] + a[i][j+1] + a[i-1][j+1] + a[i-1][j+2];
61                if (ans < temp) ans = temp;
62            }
63            if (i+2 < n && j+1 < m) {
64                int temp = a[i][j] + a[i+1][j] + a[i+1][j+1] + a[i+2][j+1];
65                if (ans < temp) ans = temp;
66            }
67            if (i+1 < n && j+2 < m) {
68                int temp = a[i][j] + a[i][j+1] + a[i+1][j+1] + a[i+1][j+2];
69                if (ans < temp) ans = temp;
70            }
71            if (i+2 < n && j-1 >= 0) {
72                int temp = a[i][j] + a[i+1][j] + a[i+1][j-1] + a[i+2][j-1];
73                if (ans < temp) ans = temp;
74            }
75            if (j+2 < m) {
76                int temp = a[i][j] + a[i][j+1] + a[i][j+2];
77                if (i-1 >= 0) {
78                    int temp2 = temp + a[i-1][j+1];
79                    if (ans < temp2) ans = temp2;
80                }
81                if (i+1 < n) {
82                    int temp2 = temp + a[i+1][j+1];
83                    if (ans < temp2) ans = temp2;
84                }
85            }
86            if (i+2 < n) {
87                int temp = a[i][j] + a[i+1][j] + a[i+2][j];
88                if (j+1 < m) {
89                    int temp2 = temp + a[i+1][j+1];
90                    if (ans < temp2) ans = temp2;
91                }
92                if (j-1 >= 0) {
93                    int temp2 = temp + a[i+1][j-1];
94                    if (ans < temp2) ans = temp2;
95                }
96            }
97        }
98    }
99    cout << ans << '\n';
100    return 0;
101 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	2964 KB	48 ms	3693 B

Java 8

```
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             for (int j=0; j<m; j++) {
10                 a[i][j] = sc.nextInt();
11             }
12         }
13         int ans = 0;
14         for (int i=0; i<n; i++) {
15             for (int j=0; j<m; j++) {
16                 if (j+3 < m) {
17                     int temp = a[i][j] + a[i][j+1] + a[i][j+2] + a[i][j+3];
18                     if (ans < temp) ans = temp;
19                 }
20                 if (i+3 < n) {
21                     int temp = a[i][j] + a[i+1][j] + a[i+2][j] + a[i+3][j];
22                     if (ans < temp) ans = temp;
23                 }
24                 if (i+1 < n && j+2 < m) {
25                     int temp = a[i][j] + a[i+1][j] + a[i+1][j+1] + a[i+1][j+2];
26                     if (ans < temp) ans = temp;
27                 }
28                 if (i+2 < n && j+1 < m) {
29                     int temp = a[i][j] + a[i][j+1] + a[i+1][j] + a[i+2][j];
30                     if (ans < temp) ans = temp;
31                 }
32                 if (i+1 < n && j+2 < m) {
33                     int temp = a[i][j] + a[i][j+1] + a[i+1][j+2] + a[i+1][j+1];
34                     if (ans < temp) ans = temp;
35                 }
36                 if (i+2 < n && j-1 >= 0) {
37                     int temp = a[i][j] + a[i+1][j] + a[i+2][j] + a[i+2][j-1];
38                     if (ans < temp) ans = temp;
39                 }
40                 if (i-1 >= 0 && j+2 < m) {
41                     int temp = a[i][j] + a[i][j+1] + a[i][j+2] + a[i-1][j+2];
42                     if (ans < temp) ans = temp;
43                 }
44                 if (i+2 < n && j+1 < m) {
45                     int temp = a[i][j] + a[i+1][j] + a[i+2][j] + a[i+2][j+1];
46                     if (ans < temp) ans = temp;
47                 }
48                 if (i+1 < n && j+2 < m) {
49                     int temp = a[i][j] + a[i][j+1] + a[i+1][j+2] + a[i+1][j];
50                     if (ans < temp) ans = temp;
51                 }
52                 if (i+2 < n && j+1 < m) {
53                     int temp = a[i][j] + a[i][j+1] + a[i+1][j+1] + a[i+2][j+1];
54                     if (ans < temp) ans = temp;
55                 }
56                 if (i+1 < n && j+1 < m) {
57                     int temp = a[i][j] + a[i][j+1] + a[i+1][j] + a[i+1][j+1];
58                     if (ans < temp) ans = temp;
59                 }
60                 if (i-1 >= 0 && j+2 < m) {
61                     int temp = a[i][j] + a[i][j+1] + a[i-1][j+1] + a[i-1][j+2];
62                     if (ans < temp) ans = temp;
63                 }
64                 if (i+2 < n && j+1 < m) {
65                     int temp = a[i][j] + a[i+1][j] + a[i+1][j+1] + a[i+2][j+1];
66                     if (ans < temp) ans = temp;
67                 }
68                 if (i+1 < n && j+2 < m) {
69                     int temp = a[i][j] + a[i][j+1] + a[i+1][j+1] + a[i+1][j+2];
70                     if (ans < temp) ans = temp;
71                 }
72                 if (i+2 < n && j-1 >= 0) {
73                     int temp = a[i][j] + a[i+1][j] + a[i+1][j-1] + a[i+2][j-1];
74                     if (ans < temp) ans = temp;
75                 }
76                 if (j+2 < m) {
77                     int temp = a[i][j] + a[i][j+1] + a[i][j+2];
78                     if (i-1 >= 0) {
79                         int temp2 = temp + a[i-1][j+1];
80                         if (ans < temp2) ans = temp2;
81                     }
82                     if (i+1 < n) {
83                         int temp2 = temp + a[i+1][j+1];
84                         if (ans < temp2) ans = temp2;
85                     }
86                 }
87                 if (i+2 < n) {
88                     int temp = a[i][j] + a[i+1][j] + a[i+2][j];
89                     if (j+1 < m) {
90                         int temp2 = temp + a[i+1][j+1];
91                         if (ans < temp2) ans = temp2;
92                     }
93                     if (j-1 >= 0) {
94                         int temp2 = temp + a[i+1][j-1];
95                         if (ans < temp2) ans = temp2;
96                     }
97                 }
98             }
99         }
100         System.out.println(ans);
101     }
102 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	162344 KB	956 ms	4190 B

Python 3

```
1 n,m = map(int,input().split())
2 a = [list(map(int,input().split())) for _ in range(n)]
3 ans = 0
4 for i in range(n):
5     for j in range(m):
6         if j+3 < m:
7             temp = a[i][j] + a[i][j+1] + a[i][j+2] + a[i][j+3]
8             if ans < temp: ans = temp
9
10        if i+3 < n:
11            temp = a[i][j] + a[i+1][j] + a[i+2][j] + a[i+3][j]
12            if ans < temp: ans = temp
13
14        if i+1 < n and j+2 < m:
15            temp = a[i][j] + a[i+1][j] + a[i+1][j+1] + a[i+1][j+2]
16            if ans < temp: ans = temp
17
18        if i+2 < n and j+1 < m:
19            temp = a[i][j] + a[i][j+1] + a[i+1][j] + a[i+2][j]
20            if ans < temp: ans = temp
21
22        if i+1 < n and j+2 < m:
23            temp = a[i][j] + a[i][j+1] + a[i][j+2] + a[i+1][j+2]
24            if ans < temp: ans = temp
25
26        if i+2 < n and j-1 >= 0:
27            temp = a[i][j] + a[i+1][j] + a[i+2][j] + a[i+2][j-1]
28            if ans < temp: ans = temp
29
30        if i-1 >= 0 and j+2 < m:
31            temp = a[i][j] + a[i][j+1] + a[i][j+2] + a[i-1][j+2]
32            if ans < temp: ans = temp
33
34        if i+2 < n and j+1 < m:
35            temp = a[i][j] + a[i+1][j] + a[i+2][j] + a[i+2][j+1]
36            if ans < temp: ans = temp
37
38        if i+1 < n and j+2 < m:
39            temp = a[i][j] + a[i][j+1] + a[i+1][j+2] + a[i+1][j]
40            if ans < temp: ans = temp
41
42        if i+2 < n and j+1 < m:
43            temp = a[i][j] + a[i][j+1] + a[i+1][j+1] + a[i+2][j+1]
44            if ans < temp: ans = temp
45
46        if i+1 < n and j+1 < m:
47            temp = a[i][j] + a[i][j+1] + a[i+1][j] + a[i+1][j+1]
48            if ans < temp: ans = temp
49
50        if i-1 >= 0 and j+2 < m:
51            temp = a[i][j] + a[i][j+1] + a[i-1][j+1] + a[i-1][j+2]
52            if ans < temp: ans = temp
53
54        if i+2 < n and j+1 < m:
55            temp = a[i][j] + a[i+1][j] + a[i+1][j+1] + a[i+2][j+1]
56            if ans < temp: ans = temp
57
58        if i+1 < n and j+2 < m:
59            temp = a[i][j] + a[i][j+1] + a[i+1][j+1] + a[i+1][j+2]
60            if ans < temp: ans = temp
61
62        if i+2 < n and j-1 >= 0:
63            temp = a[i][j] + a[i+1][j] + a[i+1][j-1] + a[i+2][j-1]
64            if ans < temp: ans = temp
65
66        if j+2 < m:
67            temp = a[i][j] + a[i][j+1] + a[i][j+2]
68            if i-1 >= 0:
69                temp2 = temp + a[i-1][j+1]
70                if ans < temp2: ans = temp2
71
72            if i+1 < n:
73                temp2 = temp + a[i+1][j+1]
74                if ans < temp2: ans = temp2
75
76        if i+2 < n:
77            temp = a[i][j] + a[i+1][j] + a[i+2][j]
78            if j+1 < m:
79                temp2 = temp + a[i+1][j+1]
80                if ans < temp2: ans = temp2
81
82            if j-1 >= 0:
83                temp2 = temp + a[i+1][j-1]
84                if ans < temp2: ans = temp2
85
86        print(ans)
87
88
```

결과	메모리	시간	코드 길이
맞았습니다!!	34452 KB	2272 ms	2940 B

C++14

```
1 #include <iostream>
2 using namespace std;
3 int a[500][500];
4 int block[19][3][2] = {
5     {{0,1}, {0,2}, {0,3}},
6     {{1,0}, {2,0}, {3,0}},
7     {{1,0}, {1,1}, {1,2}},
8     {{0,1}, {1,0}, {2,0}},
9     {{0,1}, {0,2}, {1,2}},
10    {{1,0}, {2,0}, {2,-1}},
11    {{0,1}, {0,2}, {-1,2}},
12    {{1,0}, {2,0}, {2,1}},
13    {{0,1}, {0,2}, {1,0}},
14    {{0,1}, {1,1}, {2,1}},
15    {{0,1}, {1,0}, {1,1}},
16    {{0,1}, {-1,1}, {-1,2}},
17    {{1,0}, {1,1}, {2,1}},
18    {{0,1}, {1,1}, {1,2}},
19    {{1,0}, {1,-1}, {2,-1}},
20    {{0,1}, {0,2}, {-1,1}},
21    {{0,1}, {0,2}, {1,1}},
22    {{1,0}, {2,0}, {1,1}},
23    {{1,0}, {2,0}, {1,-1}},
24 };
25 int main() {
26     int n, m;
27     cin >> n >> m;
28     for (int i=0; i<n; i++) {
29         for (int j=0; j<m; j++) {
30             cin >> a[i][j];
31         }
32     }
33     int ans = 0;
34     for (int i=0; i<n; i++) {
35         for (int j=0; j<m; j++) {
36             for (int k=0; k<19; k++) {
37                 bool ok = true;
38                 int sum = a[i][j];
39                 for (int l=0; l<3; l++) {
40                     int x = i+block[k][l][0];
41                     int y = j+block[k][l][1];
42                     if (0 <= x && x < n && 0 <= y && y < m) {
43                         sum += a[x][y];
44                     } else {
45                         ok = false;
46                         break;
47                     }
48                 }
49                 if (ok && ans < sum) {
50                     ans = sum;
51                 }
52             }
53         }
54     }
55     cout << ans << '\n';
56     return 0;
57 }
```

결과

맞았습니다!!!

메모리

2964 KB

시간

68 ms

코드 길이

1477 B

Java 8

```
1 import java.util.*;
2 public class Main {
3     static int[][][] block = {
4         {{0,1}, {0,2}, {0,3}},
5         {{1,0}, {2,0}, {3,0}},
6         {{1,0}, {1,1}, {1,2}},
7         {{0,1}, {1,0}, {2,0}},
8         {{0,1}, {0,2}, {1,2}},
9         {{1,0}, {2,0}, {2,-1}},
10        {{0,1}, {0,2}, {-1,2}},
11        {{1,0}, {2,0}, {2,1}},
12        {{0,1}, {0,2}, {1,0}},
13        {{0,1}, {1,1}, {2,1}},
14        {{0,1}, {1,0}, {1,1}},
15        {{0,1}, {-1,1}, {-1,2}},
16        {{1,0}, {1,1}, {2,1}},
17        {{0,1}, {1,1}, {1,2}},
18        {{1,0}, {1,-1}, {2,-1}},
19        {{0,1}, {0,2}, {-1,1}},
20        {{0,1}, {0,2}, {1,1}},
21        {{1,0}, {2,0}, {1,1}},
22        {{1,0}, {2,0}, {1,-1}},
23    };
24     public static void main(String[] args) {
25         Scanner sc = new Scanner(System.in);
26         int n = sc.nextInt();
27         int m = sc.nextInt();
28         int[][] a = new int[n][m];
29         for (int i=0; i<n; i++) {
30             for (int j=0; j<m; j++) {
31                 a[i][j] = sc.nextInt();
32             }
33         }
34         int ans = 0;
35         for (int i=0; i<n; i++) {
36             for (int j=0; j<m; j++) {
37                 for (int k=0; k<19; k++) {
38                     boolean ok = true;
39                     int sum = a[i][j];
40                     for (int l=0; l<3; l++) {
41                         int x = i+block[k][l][0];
42                         int y = j+block[k][l][1];
43                         if (0 <= x && x < n && 0 <= y && y < m) {
44                             sum += a[x][y];
45                         } else {
46                             ok = false;
47                             break;
48                         }
49                     }
50                     if (ok && ans < sum) {
51                         ans = sum;
52                     }
53                 }
54             }
55         }
56         System.out.println(ans);
57     }
58 }
```

결과

맞았습니다!!!

메모리

157440 KB

시간

916 ms

코드 길이

1804 B

Python 3

```
1 blocks = (
2     ((0,1), (0,2), (0,3)),
3     ((1,0), (2,0), (3,0)),
4     ((1,0), (1,1), (1,2)),
5     ((0,1), (1,0), (2,0)),
6     ((0,1), (0,2), (1,2)),
7     ((1,0), (2,0), (2,-1)),
8     ((0,1), (0,2), (-1,2)),
9     ((1,0), (2,0), (2,1)),
10    ((0,1), (0,2), (1,0)),
11    ((0,1), (1,1), (2,1)),
12    ((0,1), (1,0), (1,1)),
13    ((0,1), (-1,1), (-1,2)),
14    ((1,0), (1,1), (2,1)),
15    ((0,1), (1,1), (1,2)),
16    ((1,0), (1,-1), (2,-1)),
17    ((0,1), (0,2), (-1,1)),
18    ((0,1), (0,2), (1,1)),
19    ((1,0), (2,0), (1,1)),
20    ((1,0), (2,0), (1,-1)),
21 )
22 n,m = map(int,input().split())
23 a = [list(map(int,input().split())) for _ in range(n)]
24 ans = 0
25 for i in range(n):
26     for j in range(m):
27         for block in blocks:
28             ok = True
29             s = a[i][j]
30             for dx, dy in block:
31                 x, y = i+dx, j+dy
32                 if 0 <= x < n and 0 <= y < m:
33                     s += a[x][y]
34             else:
35                 ok = False
36                 break
37             if ok and ans < s:
38                 ans = s
39 print(ans)
40
```

결과

맞았습니다!!!

메모리

34460 KB

시간

5856 ms

코드 길이

1036 B

C++14

```
1 #include <iostream>
2 #include <algorithm>
3 #include <vector>
4 #include <string>
5 using namespace std;
6 vector<vector<string>> blocks = {
7     {"1111"},
8     {"11"},
9     {"1"},
10    {"10"},
11    {"10"},
12    {"11"},
13    {"10"},
14    {"11"},
15    {"01"},
16    {"111"},
17    {"010"}
18 };
19 vector<string> mirror(vector<string> &b) {
20     vector<string> ans(b.size());
21     for (int i=0; i<b.size(); i++) {
22         string temp(b[i]);
23         reverse(temp.begin(), temp.end());
24         ans[i] = temp;
25     }
26     return ans;
27 }
28 vector<string> rotate(vector<string> &b) {
29     vector<string> ans(b[0].size());
30     for (int j=0; j<b[0].size(); j++) {
31         for (int i=(int)b.size()-1; i>=0; i--) {
32             ans[j] += b[i][j];
33         }
34     }
35     return ans;
36 }
37 int calc(vector<vector<int>> &a, vector<string> &b, int x, int y) {
38     int n = a.size();
39     int m = a[0].size();
40     int sum = 0;
41     for (int i=0; i<b.size(); i++) {
42         for (int j=0; j<b[0].size(); j++) {
43             if (b[i][j] == '0') continue;
44             int nx = x+i;
45             int ny = y+j;
46             if (0 <= nx && nx < n && 0 <= ny && ny < m) {
47                 sum += a[nx][ny];
48             } else {
49                 return -1;
50             }
51         }
52     }
53     return sum;
54 }
55 int main() {
56     int n, m;
57     cin >> n >> m;
58     vector<vector<int>> a(n, vector<int>(m));
59     for (int i=0; i<n; i++) {
60         for (int j=0; j<m; j++) {
61             cin >> a[i][j];
62         }
63     }
64     int ans = 0;
65     for (int i=0; i<n; i++) {
66         for (int j=0; j<m; j++) {
67             for (auto &block: blocks) {
68                 vector<string> b(block);
69                 for (int mir=0; mir<2; mir++) {
70                     for (int rot=0; rot<4; rot++) {
71                         int cur = calc(a, b, i, j);
72                         if (cur != -1 && ans < cur) {
73                             ans = cur;
74                         }
75                         b = rotate(b);
76                     }
77                     b = mirror(b);
78                 }
79             }
80         }
81     }
82     cout << ans << '\n';
83     return 0;
84 }
```

90도 회전 4번

미러 2번

90도

270도

(x, y)

(x+1, y+1)

n x m

기저 (i, j)

결과

메모리

시간

코드 길이

맞았습니다!!

2784 KB

772 ms

2042 B

Java 8

```
1 import java.util.*;
2 import java.io.*;
3 public class Main {
4     static String[][] blocks = {
5         {"1111"},
6         {"11"},
7         {"1"},
8         {"10"},
9         {"10"},
10        {"11"},
11        {"10"},
12        {"11"},
13        {"01"},
14        {"111"},
15        {"010"}
16    };
17    static String[] mirror(String[] b) {
18        String[] ans = new String[b.length];
19        for (int i=0; i<b.length; i++) {
20            ans[i] = new StringBuilder(b[i]).reverse().toString();
21        }
22        return ans;
23    }
24    static String[] rotate(String[] b) {
25        String[] ans = new String[b[0].length()];
26        for (int j=0; j<b[0].length(); j++) {
27            StringBuilder sb = new StringBuilder();
28            for (int i=(int)b.length-1; i>=0; i--) {
29                sb.append(b[i].charAt(j));
30            }
31            ans[j] = sb.toString();
32        }
33        return ans;
34    }
35    static int calc(int[][] a, String[] b, int x, int y) {
36        int n = a.length;
37        int m = a[0].length;
38        int sum = 0;
39        for (int i=0; i<b.length; i++) {
40            for (int j=0; j<b[0].length(); j++) {
41                if (b[i].charAt(j) == '0') continue;
42                int nx = x+i;
43                int ny = y+j;
44                if (0 <= nx && nx < n && 0 <= ny && ny < m) {
45                    sum += a[nx][ny];
46                } else {
47                    return -1;
48                }
49            }
50        }
51        return sum;
52    }
53    public static void main(String[] args) throws IOException {
54        BufferedReader bf = new BufferedReader(new InputStreamReader(System.in));
55        String[] line = bf.readLine().split(" ");
56        Scanner sc = new Scanner(System.in);
57        int n = Integer.parseInt(line[0]);
58        int m = Integer.parseInt(line[1]);
59        int[][] a = new int[n][m];
60        for (int i=0; i<n; i++) {
61            line = bf.readLine().split(" ");
62            for (int j=0; j<m; j++) {
63                a[i][j] = Integer.parseInt(line[j]);
64            }
65        }
66        int ans = 0;
67        for (int i=0; i<n; i++) {
68            for (int j=0; j<m; j++) {
69                for (String[] block : blocks) {
70                    String[] b = new String[block.length];
71                    System.arraycopy(block, 0, b, 0, block.length);
72                    for (int mir=0; mir<2; mir++) {
73                        for (int rot=0; rot<4; rot++) {
74                            int cur = calc(a, b, i, j);
75                            if (cur != -1 && ans < cur) {
76                                ans = cur;
77                            }
78                            b = rotate(b);
79                        }
80                        b = mirror(b);
81                    }
82                }
83            }
84        }
85        System.out.println(ans);
86    }
87 }
```

a + b

270도

O(4 * (b1))

O(b1)

결과

메모리

시간

코드 길이

맞았습니다!!

373992 KB

1832 ms

2784 B

PyPy3

```
1 blocks = (
2     ("1111"),
3     ("11"),
4     ("1"),
5     ("10"),
6     ("10"),
7     ("11"),
8     ("10"),
9     ("11"),
10    ("01"),
11    ("111"),
12    ("010")
13 )
14 def mirror(b):
15     ans = []
16     for i in range(len(b)):
17         ans.append(b[i][::-1])
18     return ans
19 def rotate(b):
20     ans = [''] * len(b[0])
21     for j in range(len(b[0])):
22         for i in range(len(b)-1, -1, -1):
23             ans[j] += b[i][j]
24     return ans
25 def calc(a, b, x, y):
26     n = len(a)
27     m = len(a[0])
28     s = 0
29     for i in range(len(b)):
30         for j in range(len(b[0])):
31             if b[i][j] == '0':
32                 continue
33             nx, ny = x+i, y+j
34             if 0 <= nx < n and 0 <= ny < m:
35                 s += a[nx][ny]
36             else:
37                 return -1
38     return s
39
40 n, m = map(int, input().split())
41 a = [list(map(int, input().split())) for _ in range(n)]
42 ans = 0
43 for i in range(n):
44     for j in range(m):
45         b = block in blocks:
46             b = block[:]:
47             for mir in range(2):
48                 for rot in range(4):
49                     cur = calc(a, b, i, j)
50                     if cur != -1 and ans < cur:
51                         ans = cur
52                     b = rotate(b)
53             b = mirror(b)
54 print(ans)
```

len(b)-1

270도

결과

메모리

시간

코드 길이

맞았습니다!!

124456 KB

4844 ms

1209 B

C++14

```
1 #include <iostream>
2 using namespace std;
3 int main() {
4     int t;
5     cin >> t;
6     while (t--) {
7         int m, n, x, y;
8         cin >> m >> n >> x >> y;
9         x -= 1;
10        y -= 1;
11        bool ok = false;
12        for (int k=x; k<(n*m); k+=m) {
13            if (k%n == y) {
14                cout << k+1 << '\n';
15                ok = true;
16                break;
17            }
18        }
19        if (!ok) {
20            cout << -1 << '\n';
21        }
22    }
23    return 0;
24 }
```

Handwritten Annotations:

- Boxed K?** with an arrow pointing to the loop condition `k < (n*m)`.
- Circle X** next to the loop condition.
- Text:** `M은 3 6은 12` (M is 3, 6 is 12).
- Text:** `< x:1 >` with an arrow pointing to `x -= 1`.

결과	메모리	시간	코드 길이
맞았습니다!!	1984 KB	80 ms	471 B

Java 8

```
1 import java.util.*;
2 import java.io.*;
3 public class Main {
4     public static void main(String args[]) throws IOException {
5         BufferedReader bf = new BufferedReader(new InputStreamReader(System.in));
6         int t = Integer.valueOf(bf.readLine());
7         while (t-- > 0) {
8             String[] line = bf.readLine().split(" ");
9             int m = Integer.valueOf(line[0]);
10            int n = Integer.valueOf(line[1]);
11            int x = Integer.valueOf(line[2])-1;
12            int y = Integer.valueOf(line[3])-1;
13            boolean ok = false;
14            for (int k=x; k<(n*m); k+=m) {
15                if (k%n == y) {
16                    System.out.println(k+1);
17                    ok = true;
18                    break;
19                }
20            }
21            if (!ok) {
22                System.out.println(-1);
23            }
24        }
25    }
26 }
27 }
```

Handwritten Annotation:

- A large red bracket grouping the loop and the `if (!ok)` block.

결과	메모리	시간	코드 길이
맞았습니다!!	15488 KB	232 ms	857 B

PyPy3

```
1 t = int(input())
2 for _ in range(t):
3     m,n,x,y = map(int,input().split())
4     x -= 1
5     y -= 1
6     k = x
7     while k < n*m:
8         if k%n == y:
9             print(k+1)
10            break
11            k += m
12     else:
13         print(-1)
14
15
```

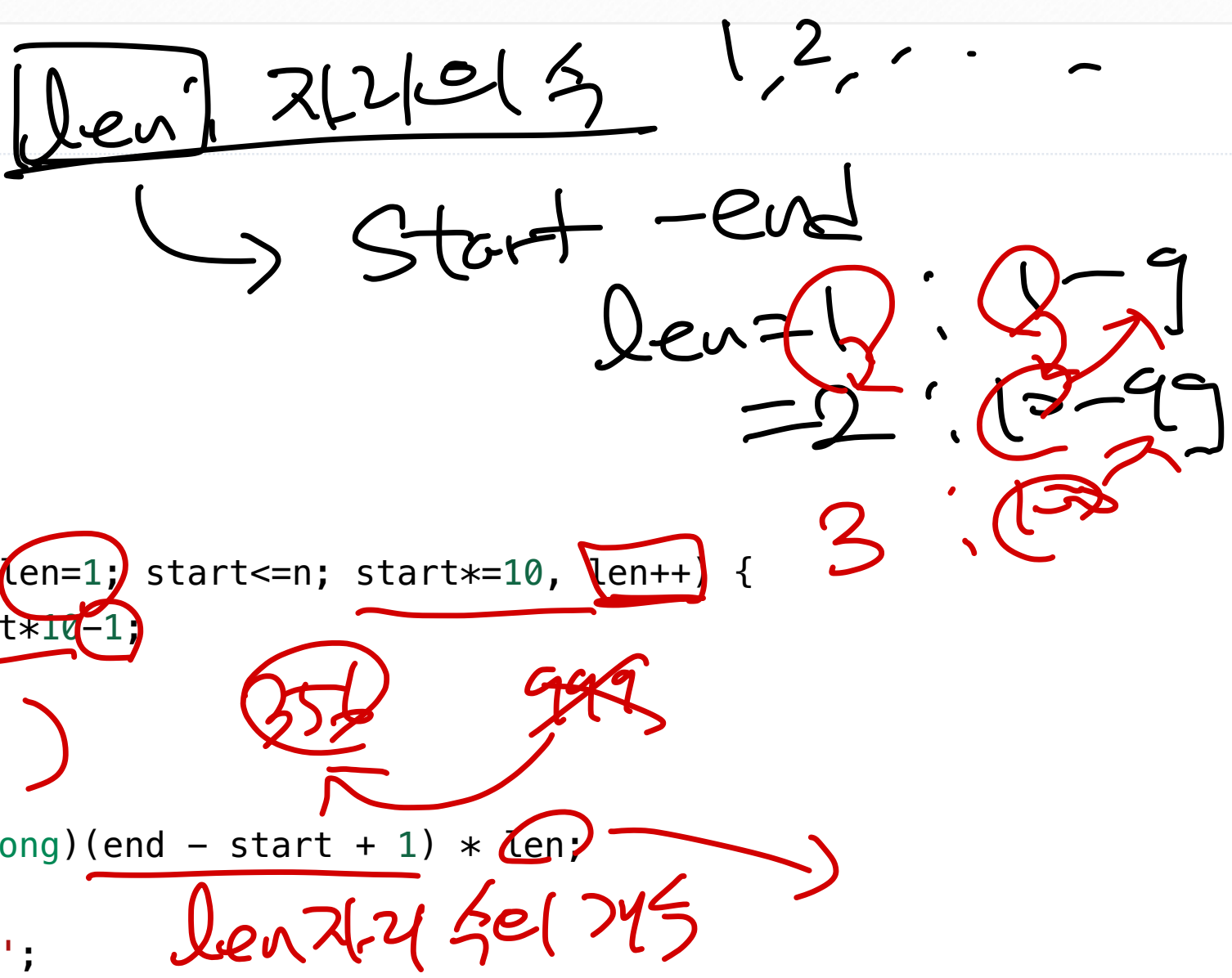
Handwritten Annotation:

- A large red bracket grouping the `while` loop and the `else` block.

결과	메모리	시간	코드 길이
맞았습니다!!	120384 KB	404 ms	232 B

C++14

```
1 #include <iostream>
2 using namespace std;
3 int main() {
4     int n;
5     cin >> n;
6     long long ans = 0;
7     for (int start=1, len=1; start<=n; start*=10, len++) {
8         int end = start*10-1;
9         if (end > n) {
10             end = n;
11         }
12         ans += (long long)(end - start + 1) * len;
13     }
14     cout << ans << '\n';
15     return 0;
16 }
```



결과	메모리	시간	코드 길이
맞았습니다!!	2016 KB	0 ms	342 B

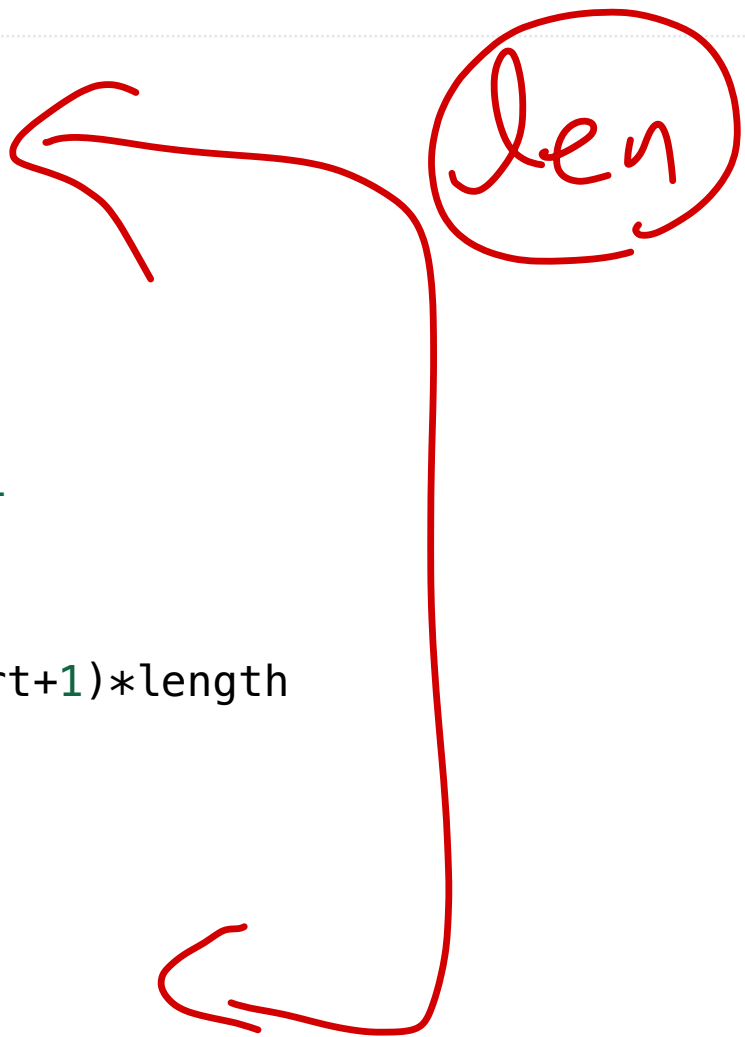
Java 8

```
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         long ans = 0;
7         for (int start=1, len=1; start<=n; start*=10, len++) {
8             int end = start*10-1;
9             if (end > n) {
10                 end = n;
11             }
12             ans += (long)(end - start + 1) * len;
13         }
14         System.out.println(ans);
15     }
16 }
```

결과	메모리	시간	코드 길이
맞았습니다!!	12812 KB	108 ms	445 B

Python 3

```
1 n = int(input())
2 ans = 0
3 start = 1
4 length = 1
5 while start <= n:
6     end = start*10-1
7     if end > n:
8         end = n
9     ans += (end-start+1)*length
10    start *= 10
11    length += 1
12 print(ans)
13
```



결과	메모리	시간	코드 길이
맞았습니다!!	28776 KB	60 ms	192 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 로 이메일 보내주세요.
- 강의 내용, 동영상 강의, 슬라이드, 첨부되어 있는 소스 코드의 저작권은 스타트링크와 최백준에게 있습니다.