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1 Section1

1.1 basic

```

1 // c++ code
2 #include <bits/stdc++.h>
3 using namespace std;
4
5 int main() {
6     // test comment
7     cout << "test string\n";
8 }

```

2 Section2

2.1 thm

· 中文測試

$$\cdot \sum_{i=1}^n i^2 = \frac{n(n+1)(2n+1)}{6}$$

3 Graph

3.1 C129

```

1 #include <bits/stdc++.h>
2
3 using namespace std;
4 char oil[100][100] = {0};
5 int m, n;
6
7 void dfs( int i, int j )
8 {
9     oil[i][j] = '*';
10    if( oil[i-1][j-1] == '@' )
11    {
12        if( i-1 >= 0 && j-1 >= 0 )
13        {
14            oil[i-1][j-1] = '*';
15            dfs( i-1, j-1 );
16        }
17    }
18    else if( oil[i-1][j] == '@' )
19    {
20        if( i-1 >= 0 )
21        {
22            oil[i-1][j] = '*';
23            dfs( i-1, j );
24        }
25    }
26    else if( oil[i-1][j+1] == '@' )
27    {
28        if( i-1 >= 0 && j+1 <= n )
29        {
30            oil[i-1][j+1] = '*';

```

```

31        dfs( i-1, j+1 );
32    }
33 }
34 else if( oil[i][j-1] == '@' )
35 {
36     if( j-1 >= 0 )
37     {
38         oil[i][j-1] = '*';
39         dfs( i, j-1 );
40     }
41 }
42 else if( oil[i][j+1] == '@' )
43 {
44     if( j+1 <= n )
45     {
46         oil[i][j+1] = '*';
47         dfs( i, j+1 );
48     }
49 }
50 else if( oil[i+1][j-1] == '@' )
51 {
52     if( i+1 <= m && j-1 >= 0 )
53     {
54         oil[i+1][j-1] = '*';
55         dfs( i+1, j-1 );
56     }
57 }
58 else if( oil[i+1][j] == '@' )
59 {
60     if( i+1 <= m )
61     {
62         oil[i+1][j] = '*';
63         dfs( i+1, j );
64     }
65 }
66 else if( oil[i+1][j+1] == '@' )
67 {
68     if( i+1 <= m && j+1 <= n )
69     {
70         oil[i+1][j+1] = '*';
71         dfs( i+1, j+1 );
72     }
73 }
74 }
75
76 int main(void)
77 {
78     while( cin >> m >> n )
79     {
80         int ans = 0;
81         if( ( m == 0 ) && ( n == 0 ) )
82         {
83             break;
84         }
85         else
86         {
87             for( int i = 0 ; i < m ; i++ )
88             {
89                 for( int j = 0 ; j < n ; j++ )
90                 {
91                     cin >> oil[i][j];
92                 }
93             }
94             for( int i = 0 ; i < m ; i++ )
95             {
96                 for( int j = 0 ; j < n ; j++ )
97                 {
98                     if( oil[i][j] == '@' )
99                     {
100                         dfs( i, j );
101                         ans++;
102                     }
103                 }
104             }
105             cout << ans << endl;
106         }
107     }

```

```
108     return 0;
109 }
```

3.2 11935

```
1 #include <bits/stdc++.h>
2
3 using namespace std;
4
5 int main()
6 {
7     int num, flag = 1;
8     cin >> num;
9     while( num > 0 )
10    {
11        int n, ans = 0;
12        char map[100][100] = {0};
13        cin >> n;
14        for( int i = 0 ; i < n ; i++ )
15        {
16            for(int j = 0 ; j < n ; j++ )
17            {
18                cin >> map[i][j];
19            }
20        }
21        for( int i = 0 ; i < n ; i++ )
22        {
23            for(int j = 0 ; j < n ; j++ )
24            {
25                if( map[i][j] == 'x' )
26                {
27                    ans++;
28                }
29            }
30        }
31        cout << "Case " << flag << ": " << ans << endl;
32        num--;
33        flag++;
34    }
35    return 0;
36 }
```

```
27     n = n * Mode( a, i, p);
28     if( n % p == b % p )
29     {
30         ans++;
31     }
32 }
33 cout << ans << endl;
34 return 0;
35 }
```

4 Numbers

4.1 CongruenceEquation

```
1 #include <bits/stdc++.h>
2
3 using namespace std;
4
5 long long Mode(long long a, long long n, long long m)
6 {
7     long long sum = 1;
8     for( ; n ; n >>= 1 )
9     {
10        if( n & 1 )
11        {
12            sum = ( sum * a ) % m;
13        }
14        a = ( a * a ) % m;
15    }
16    return sum;
17 }
18
19 int main(void)
20 {
21     int a, b, p, x, ans = 0;
22     cin >> a >> b >> p >> x;
23     for( int i = 1 ; i < x + 1 ; i++ )
24     {
25         int n;
26         n = i % p;
```