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1.
#include <cstdio>
#include <cstring>
#define RMD 100000
#define Nmax 200

int n;
long long dp[Nmax][Nmax];
char openedB[] = "{";
char closedB[] = "}";

char s[Nmax+1];

long long formatM( long long a ) {
    if( a >= RMD ) return RMD + a%RMD;
    return a;
}

long long countExpr( int start, int end ) {
    if( start > end ) return 1;

    long long &num = dp[start][end];
    if( num >= 0 ) return num;

    num = 0;
    for( int mid = start+1; mid <= end; mid += 2 )
        for( int tip = 0; tip < 3; ++tip )
            if( s[start] == openedB[tip] || s[start] == '?' )
                if( s[mid] == closedB[tip] || s[mid] == '?' )
                    num = formatM( num + countExpr(start+1,mid-1) * countExpr(mid+1,end) );

    return num;
}

int main( void ) {
    scanf( "%d", &n );
    scanf( "%s", s );

    memset( dp, -1, sizeof dp );
    long long num = countExpr( 0, n-1 );

    if( num < RMD ) printf( "%lld\n", num );
    else printf( "%05lld\n", num-RMD );
    return 0;
}

```

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2.
#include <iostream>
#include <algorithm>
#include <climits>
#include <deque>
#include <vector>
using namespace std;

#define Amin -5000000

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#define Adom 10000001
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```
void cnts(vector<int>& A) {  
    vector<int> f(Adom);  
    for (int i = 0; i < (int) A.size(); ++i)  
        ++f[A[i] - Amin];  
    for (int i = 0, j = 0; i < Adom; ++i)  
        while (f[i]--) A[j++] = Amin + i;  
}  
  
int sumdiff(vector<int>& A, int n, int k) {  
    cnts(A);  
    k = n - k;  
    deque<pair<int, int> > deq;  
    int res = INT_MAX;  
  
    for (int i = 1; i < n; ++i) {  
        if (!deq.empty() && deq.front().second - 1 <= i - k)  
            deq.pop_front();  
  
        int distsubseq = A[i] - A[i - 1];  
        while (!deq.empty() && deq.back().first >= distsubseq)  
            deq.pop_back();  
  
        deq.push_back(make_pair(distsubseq, i));  
  
        if (i >= k - 1) {  
            int Max = A[i] - A[i - k + 1];  
            int mIN = deq.front().first;  
            res = min(res, Max + mIN);  
        }  
    }  
  
    return res;  
}
```

```
int main(void) {  
    ios::sync_with_stdio(false);  
    int n, k;  
    cin >> n >> k;  
    vector<int> A(n);  
    for (int i = 0; i < n; ++i) cin >> A[i];  
    cout << sumdiff(A, n, k) << std::endl;  
    return 0;  
}
```

3.

```
#include <iostream>  
#include <cstdlib>  
using namespace std;
```

```
int main()  
{ int m,n,r,k, s = 0;  
  cin >> m >> n >> r >> k;  
  
  int p = 1 + (r-1)/n;  
  int q = 1 + (r-1)%n;
```

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int parnost = k % 2;
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for(int i=1; i<=m; i++)
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    for(int j=1; j<=n; j++)
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        { int d = abs(p-i) + abs(q-j);
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          if(d<=k && d%2==parnost) s = s + (n*(i-1)+j);
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        }
```

```
cout << s << endl;
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```
return 0;
```

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}
```