**RMQ with Sparse Table, O(nlogn)**

**Tested on LOJ 1082**

int M[MX][20], A[MX], N; //A=array, MX=array size

void sparse\_table()

{

for (int i = 0; i < N; i++) M[i][0] = A[i];

for (int j = 1; 1 << j <= N; j++)

for (int i = 0; i + (1 << j) - 1 < N; i++)

if (M[i][j - 1] < M[i + (1 << (j - 1))][j - 1]) M[i][j] = M[i][j - 1];

else M[i][j] = M[i + (1 << (j - 1))][j - 1];

return;

}

int mn(int i, int j) //left and right index, to find min of the array segment

{

int k = log(j - i + 1)/log(2);

int pk=pow(2,k);

return min(M[i][k],M[j-pk+1][k]);

}