**Histogram, O(n)**

**Tested on SPOJ – HISTOGRA**

int hist[MX], lft[MX], rgt[MX];

void Histogram(int n)

{

stack<int>stk;

stk.push(0), hist[0]=-1;

for(int i=1;i<=n;i++)

{

while(hist[stk.top()]>=hist[i]) stk.pop();

lft[i]= stk.top()+1, stk.push(i);

}

while(!stk.empty()) stk.pop();

stk.push(n+1), hist[n+1]=-1;

for(int i=n;i>0;i--)

{

while(hist[stk.top()]>=hist[i]) stk.pop();

rgt[i]= stk.top()-1, stk.push(i);

}

return;

}