//MAXIMUM VALUE OF SUBARRAY

#include<stdio.h>

int max(int val1,int val2,int val3)

{

if(val1>val2)

{

if(val1>val3)

return val1;

else

return val3;

}

if(val2>val1)

{

if(val2>val3)

return val2;

else

return val3;

}

}

int crosssum(int a[],int low,int middle,int high)

{

int leftsum=0,leftmax=-999,i;

for(i=middle;i>=low;i--)

{

leftsum=leftsum+a[i];

if(leftsum>leftmax)

leftmax=leftsum;

}

int rightsum=0,rightmax=-999;

for(i=middle+1;i<=high;i++)

{

rightsum=rightsum+a[i];

if(rightsum>rightmax)

rightmax=rightsum;

}

return leftmax+rightmax;

}

int maxsubarray(int a[],int low,int high)

{

int middle;

if(low==high)

return a[low];

else

{

middle=(low+high)/2;

return max(maxsubarray(a,low,middle),maxsubarray(a,middle+1,high),crosssum(a,low,middle,high));

}

}

void main()

{

printf("Enter the number of values :");

int n,i;

scanf("%d",&n);

int a[n];

printf("Enter the elements\n");

for(i=0;i<n;i++)

{

scanf("%d",&a[i]);

}

printf("The maximum value of subarray is :%d\n",maxsubarray(a,0,n-1));

}