P19

#include <iostream>

#include<stdio.h>

using namespace std;

int a[1000010];

int main()

{

int T,n,l;

scanf("%d",&T);

while(T--)

{

scanf("%d%d",&l,&n);

int maxx(0),minn(0);

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

{

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

minn=max(minn,min(a[i],l-a[i]));

maxx=max(maxx,max(a[i],l-a[i]));

}

printf("%d %d\n",minn,maxx);

}

return 0;

}