T4 Solution

There are some problems with the files for problem 4 - now its fixed. The 70pts solution is correct, and the 100pts solution is included in this file.

70pts

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

int a[1000005];
int n;

int main ()
{
 freopen("pyramid.in","r",stdin);
 freopen("pyramid.out","w",stdout);
 cin>>n;
 for (int i=1;i<=n;i++) cin>>a[i];
 int value = a[n]; //The largest value in the pryamid
 //then you are looking for, value-1, to continue the pryamid
 int answer = 0;
 int count = 1;
 for (int i=n-1;i>=1;i--)
 {
  if (a[i]==value) continue;//since if [8,8,8,8,8] there is no difference with [8]
  if (a[i]==value-1)
  {
   value = a[i];
   count++;
      //difference = 1 then chose
  }
  else
  {
   value = a[i];
   answer = max(answer,count);
   count = 1;
      //difference too big then reset
  }
```

```
 }
 answer = max(answer,count);
 cout<<answer<<endl;
}
```

100pts

```
#include<iostream>
#include<cstring>
typedef long long ll;
using namespace std;

int a[150000],b[150000],c[150000],d[150000],e[140000];

//The pyramid is made of Left and Right part
//b[i] = max size of left part with the peak at i.
//c[i] = max size of right part with the peak at i.
//d[i] = max size of left part with index at i.
//e[i] = max size of right part with inex at i.
int main ()
{
    int n;cin>>n;
    for (int i=0;i<n;i++) cin>>a[i];
    for (int i=0;i<n;i++)
    {
        b[a[i]] = max(b[a[i]],b[a[i]-1]+1);
        d[i] = b[a[i]];
    }
    for (int i=n-1;i>=0;i--)
    {
        c[a[i]] = max(c[a[i]],c[a[i]-1]+1);
        e[i] = c[a[i]];
    }
 int ans = 0;
 for (int i=0;i<n;i++)
 {
  ans = max(ans,d[i]+e[i]-1);
 }
 cout<<ans<<endl;
}
```