29ος ΠΑΝΕΛΛΗΝΙΟΣ ΔΙΑΓΩΝΙΣΜΟΣ ΠΛΗΡΟΦΟΡΙΚΗΣ

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ΕΝΔΕΙΚΙΤΙΚΕΣ ΑΠΑΝΤΗΣΕΙΣ

CPP

ΣΤΥΛΙΑΝΟΣ   ΜΠΟΥΛΙΤΣΑΚΗΣ   ΚΟΛΛΕΓΙΟ ΨΥΧΙΚΟΥ

```cpp
#include <cstdio>

#define filename_input "sch.in"
#define filename_output "sch.out"
#if defined(WIN32) || defined(_WIN32) || defined(__WIN32) && !
defined(__CYGWIN__)
#define getc_unlocked _fgetc_nolock
#endif
#define maxn 1000001
#define maxs 10001

using namespace std;

int all[maxn];
FILE *in, *out;

void fastGet(int &x) {
    int c;

    x = getc_unlocked(in) - '0';
    while ((c = getc_unlocked(in)) >= '0')
        x = 10 * x + c - '0';
}

int main()
{
    in = fopen(filename_input, "r");

    int n;
    fastGet(n);

    int first = 0, second = 0, third = 0;
    int firstindex = 0, secondindex = 0, thirdindex = 0;
```

```
register int x;
for (int c = 0; c <= n-1; c++)
{
        fastGet(x);
        all[x]++;
}

fclose(in);

for (int c = 0; c <= maxs; c++)
{
        register int x = all[c];
        if (x <= 0)
        {
                continue;
        }
        else if (x > first)
        {
                third = second;
                thirdindex = secondindex;
                second = first;
                secondindex = firstindex;
                first = x;
                firstindex = c;
        }
        else if (x > second)
        {
                third = second;
                thirdindex = secondindex;
                second = x;
                secondindex = c;
        }
        else if (x > third)
        {
                third = x;
                thirdindex = c;
        }
}

out = fopen(filename_output, "w");
fprintf(out, "%d %d %d\n", firstindex, secondindex, thirdindex);
fclose(out);
```

```
    return 0;
}
```

C

ΗΛΙΑΣ   ΛΑΖΑΡΙΑΝ   ΓΕΛ ΑΜΠΕΛΑΚΙΩΝ

```c
#include <stdio.h>
#include <stdlib.h>

int main(int argc, char *argv[]) {
      int
i,n,Hits[100000],Servers[10000],j,k,max,key[3],ServReplace[3],ma
xHits;
      FILE *file_in,*file_out;

      for(i=0;i<10000;i++)
      Servers[i]=0;
      file_in=fopen("sch.in","r");
      fscanf(file_in,"%d",&n);
      for(i=0;i<n;i++)
      {
            fscanf(file_in,"%d",&Hits[i]);
            if(i==0)
            maxHits=Hits[0];
            if(Hits[i]>maxHits)
            maxHits=Hits[i];
            k=Hits[i];
            Servers[k-1]=Servers[k-1]+1;
      }
      fclose(file_in);
      for(i=0;i<3;i++)
      {
            key[i]=0;
            ServReplace[i]=0;
      }
      for(j=0;j<3;j++)
      {
            ServReplace[j]=0;
            max=Servers[0];
            for(i=0;i<maxHits;i++)
            {
                  if(Servers[i]>max)
                  {
                        max=Servers[i];
```

```
                    ServReplace[j]=i;
                }
            }
        Servers[ServReplace[j]]=0;
        key[j]=max;
    }
    file_out=fopen("sch.out","w");
    for(i=0;i<3;i++)
    fprintf(file_out,"%d ",ServReplace[i]+1);
    fclose(file_out);
    return 0;
}
```

Pascal

ΚΙΜΩΝΑΣ ΑΘΑΝΑΣΙΟΥ   Γ/ΣΙΟ ΕΥΑΓΓΕΛΙΚΗΣ ΣΧΟΛΗΣ Ν. ΣΜΥΡΝΗΣ

```pascal
program lusi;
var
Userfile:text;
N,I,S,max1,max2,max3,maxsum:longint;
Row:Array[1..10000] of longint;
txt:string;

begin
  max1:=0;
   max2:=0;
    max3:=0;
     maxsum:=0;
  assign(Userfile,'sch.in');
  reset(Userfile);
  readln(Userfile,N);

  for I:=1 to N do
   begin
    read(Userfile,S);
    Row[S]:=Row[S]+1
   end;

  close(Userfile);

  for I:=1 to 10000 do
   begin
    if maxsum<Row[I] then
     begin
      maxsum:=Row[I];
```

```
   max1:=I;
  end;
 end;
 Row[max1]:=0;
 maxsum:=0;


 for I:=1 to 10000 do
  begin
   if Row[I]>maxsum then
    begin
     maxsum:=Row[I];
     max2:=I;
    end;
   end;
  Row[max2]:=0;
  maxsum:=0;

 for I:=1 to 10000 do
  begin
   if Row[I]>maxsum then
    begin
     maxsum:=Row[I];
     max3:=I;
    end;
   end;
  assign(Userfile,'sch.out');
  rewrite(Userfile);
  writeln(Userfile,max1,' ',max2,' ',max3);

  close(Userfile);

  halt(0);

 end.
```