

WAP to find HCF & LCM of n integers.

```
#include <conio.h>
```

```
int main()
```

```
{
```

```
    long long int i,j,n,a,b,c;
```

```
    printf("\n\t\t\t\t\tTo find HCF & LCM of 'n' integer numbers enter 'n'.  ");
```

```
    scanf("%lli",&n);
```

```
    long long int number[n];/*contains all input numbers*/
```

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

```
    {
```

```
        printf("\n\t\t\t\t\tEnter %lli th number: ",i+1);
```

```
        scanf("%lli",&number[i]);
```

```
    }
```

```
    a = number[0];
```

```
    b = number[0];
```

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

```
    {
```

```
        if (b>number[i]) b=number[i];/*find smallest number in array*/
```

```
        if (a<number[i]) a=number[i];/*find greatest number in array*/
```

```
    }
```

```
    if (b%2==0) c=b/2;/*minimize number of loops*/
```

```
    else c=(b-1)/2;
```

```
    long long int factorh[c];/*array of factors to find HCF & LCM*/
```

```
    factorh[0]=b;
```

```
    for(i=2; i<=c; i++)
```

```
    {
```

```
        factorh[i-1]=1;
```

```
        if (b%i==0) factorh[i-1]=i;/*find factor of smallest number in array*/
```

```
    }
```

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

```
    {
```

```
        for(j=0; j<c; j++)
```

```
        {
```

```
            if (number[i]%factorh[j]!=0) factorh[j]=1;/*find common factors in
```

```
array*/
```

```
        }
```

```
    }
```

```
    b=factorh[0];
```

```
    for(i=0; i<c; i++)
```

```
    {
```

```

        if (b<factorh[i]) b=factorh[i];/*find greatest factor*/
    }
    printf("\n\t\t\t\tHCF = %lli\n",b);
    c=0;
    j=1;
    do
    {
        b=0;
        for(i=0; i<n; i++)
        {
            if ((a*j)%number[i]!=0) break; /*In LCM n1*a1=n2*a2=n3*a3.*/
            else b++;
        }
        if (b==n)
        {
            printf("\n\t\t\t\tLCM = %lli\n",a*j);
            c=1;
        }
        j++;
    }
    while(c!=1);
}

```