**Tema 42**

numere.out

```
2 3 6 7 9 14 18 21 42 63
12
NU
```

numar.in

```
126
```

main.cpp

```cpp
#include <iostream>
#include<fstream>
using namespace std;
int main()
{   ifstream f("numar.in");
    ofstream g("numere.out");
    int d,n,nr=2;
    f>>n;
    for(d=2;d<=n/2;d++)
            if(n%d==0)
            {
                nr++;
                g<<d<<' ';
            }
    g<<endl<<nr<<endl;
    if(nr==2)g<<"DA";
    else g<<"NU";
    f.close();
    g.close();
    return 0;
}
```

## Tema 43

numere.out

```
2 4 5 10 20 25 50 100 125 250
436
125
```

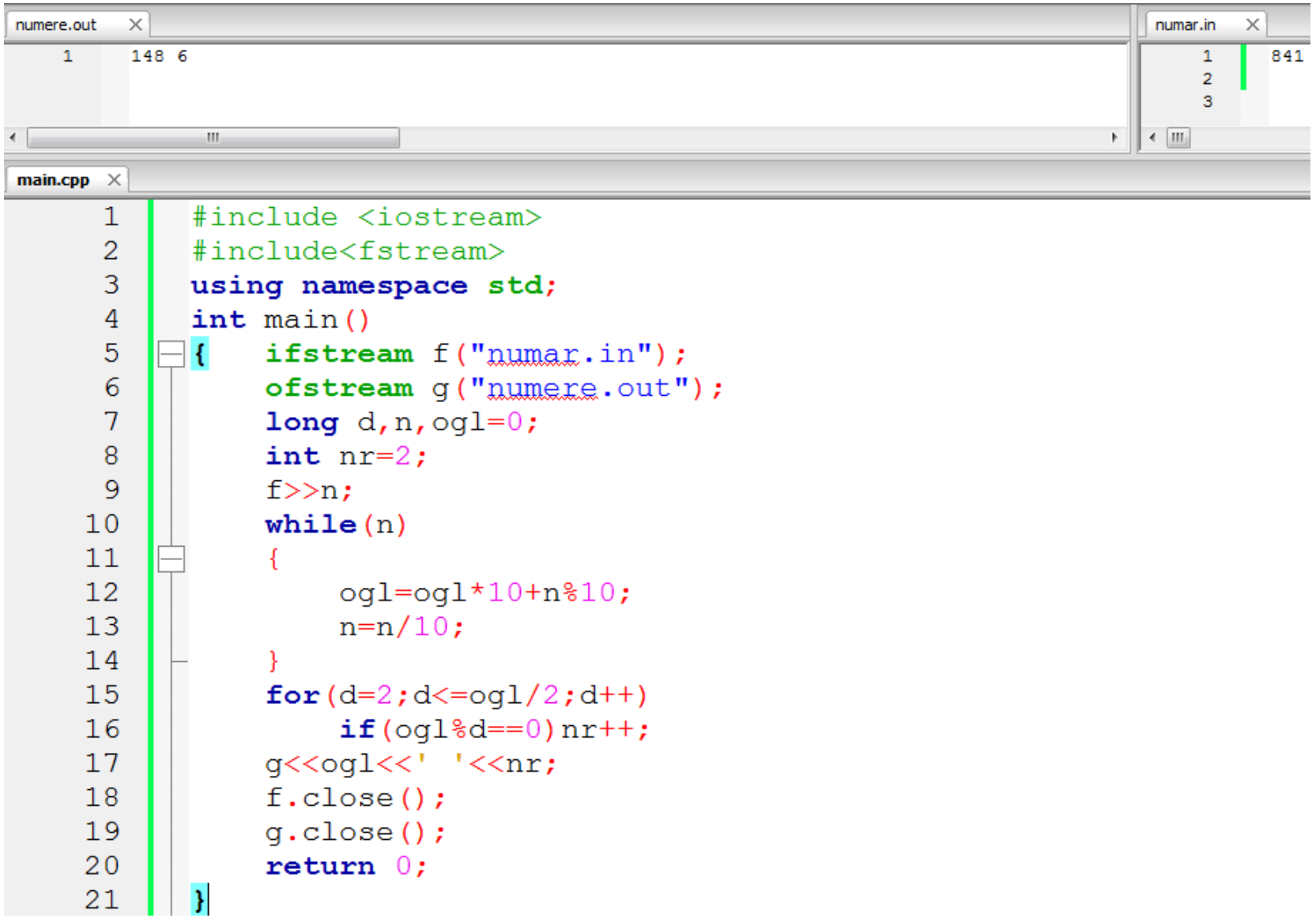
numar.in

```
500
```

main.cpp

```
#include <iostream>
#include<fstream>
using namespace std;
int main()
{    ifstream f("numar.in");
     ofstream g("numere.out");
     int d,n,s=0,p=1;
     f>>n;
     for(d=2;d<=n/2;d++)
          if(n%d==0)
                    {
                         if(d%2==0)s=s+d;
                         else p=p*(d%10);
                         g<<d<<' ';
                    }
     g<<endl<<s<<endl<<p;
     f.close();
     g.close();
     return 0;
}
```

## Tema 44


numere.out
1 148 6
numar.in
1 841
2
3
main.cpp
#include <iostream>
#include<fstream>
using namespace std;
int main()
{ ifstream f("numar.in");
ofstream g("numere.out");
long d,n,ogl=0;
int nr=2;
f>>n;
while(n)
{
ogl=ogl*10+n%10;
n=n/10;
}
for(d=2;d<=ogl/2;d++)
if(ogl%d==0)nr++;
g<<ogl<<' '<<nr;
f.close();
g.close();
return 0;
}

## Tema 45

numere.out

```
1  perfect
```

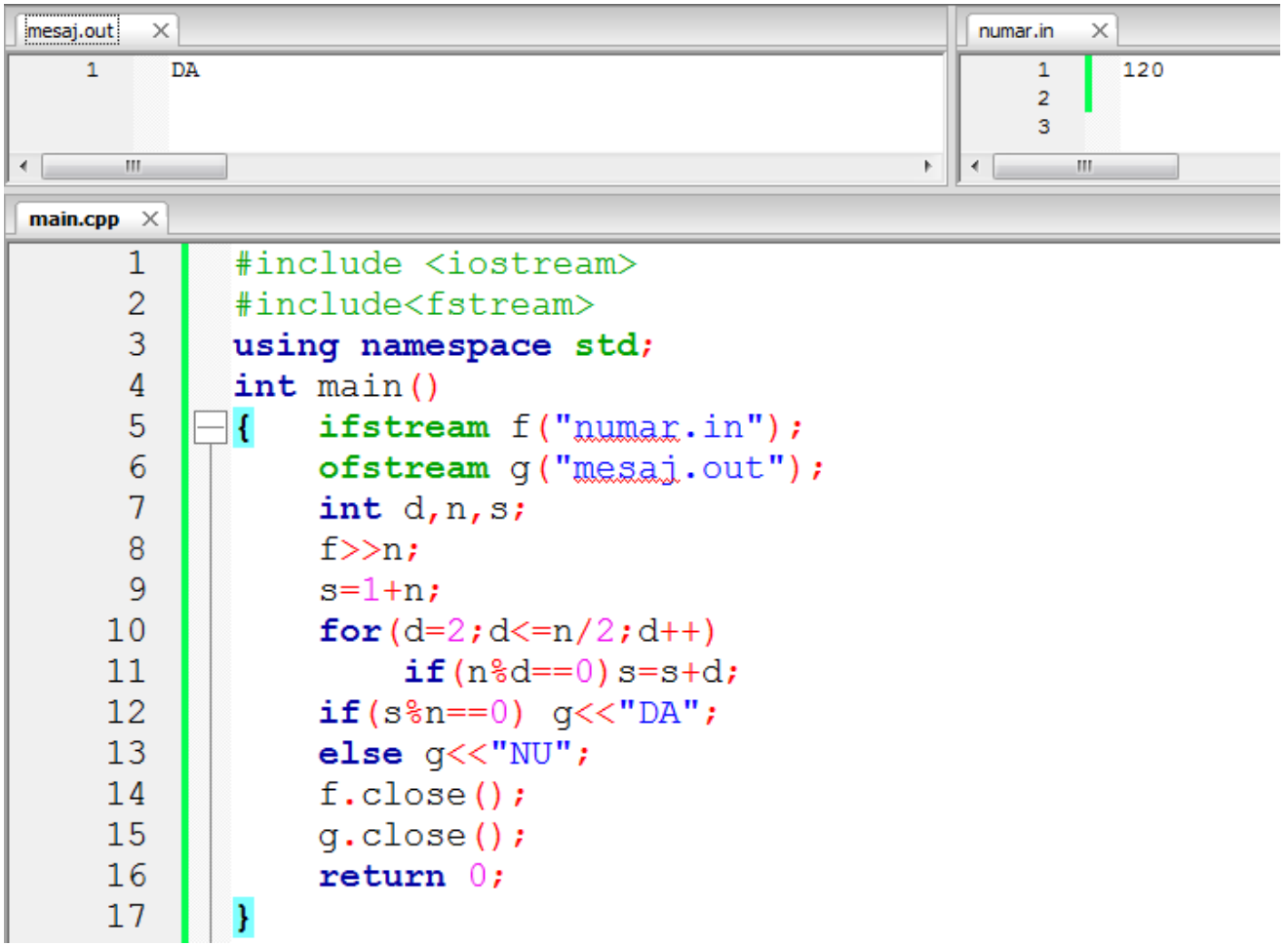
numar.in

```
1  6
2
```

main.cpp

```
1  #include <iostream>
2  #include<fstream>
3  using namespace std;
4  int main()
5  {    ifstream f("numar.in");
6       ofstream g("numere.out");
7       int d,n,s;
8       f>>n;
9       s=1+n;
10      for(d=2;d<=n/2;d++)
11          if(n%d==0)s=s+d;
12      if(2*n==s) g<<"perfect";
13      else g<<"nu este perfect";
14      f.close();
15      g.close();
16      return 0;
17 }
```

## Tema 46


mesaj.out
1 DA
numar.in
1 120
2
3
main.cpp
#include <iostream>
#include<fstream>
using namespace std;
int main()
{ ifstream f("numar.in");
ofstream g("mesaj.out");
int d,n,s;
f>>n;
s=1+n;
for(d=2;d<=n/2;d++)
if(n%d==0)s=s+d;
if(s%n==0) g<<"DA";
else g<<"NU";
f.close();
g.close();
return 0;
}

## Tema 47

numere.out

```
1280 1452 1476 1568 1575 1692 1792 2450 2475 3468 3492 3675 4572 5684 5780
```

numar.in

```
18
```

main.cpp

```cpp
#include<fstream>
using namespace std;
int main()
{   ifstream f("numar.in");
    ofstream g("numere.out");
    int n,nr1=0,nr2;
    long x,d;
    f>>n;
    for (x=1000;x<=9999;x++)
    {
        nr2=2;
        for(d=2;d<=x/2;d++)
            if(x%d==0)nr2++;
        if(n==nr2 &&  x/1000%10<x/100%10 && x/100%10<x/10%10)
        {
           nr1++;
           g<<x<<' ';
        }
    }
    if(nr1==0) g<<"nu exista";
    f.close();
    g.close();
    return 0;
}
```

## Tema 48

numere.out

```
110 114 222 232 255 266 282 322 344 366 399 424 434 442 455 474 488 494 555 595 606 646 663 664 665 686 776 777 808 822 885 969 994 999
```

numar.in

```
8
```

main.cpp

```
#include<fstream>
using namespace std;
int main()
{   ifstream f("numar.in");
    ofstream g("numere.out");
    int n,nr1=0,nr2;
    long x,d;
    f>>n;
    for (x=100;x<=999;x++)
    {
        nr2=2;
        for(d=2;d<=x/2;d++)
            if(x%d==0)nr2++;
        if(n==nr2 && (x/100==x/10%10 || x/100==x%10 || x/10%10==x%10))
        {
           nr1++;
           g<<x<<' ';
        }
    }
    if(nr1==0) g<<"nu exista";
    f.close();
    g.close();
    return 0;
}
```

**Tema 49**

```cpp
#include <iostream>
#include<fstream>
using namespace std;
int main()
{
    ifstream f("numar.in");
    ofstream g("numere.out");
    int nr1=0,nr2;
    long long x,ogl,y,d;
    while(f>>x)
    {
        ogl=0;y=x;
        while(y)
        {
            ogl=ogl*10+y%10;
            y=y/10;
        }
        nr2=0;
        for(d=2;d<=ogl/2;d++)
            if(ogl%d==0)nr2++;
        if(nr2==0 && ogl!=0 &&ogl!=0)
        {g<<x<<' ' ;   nr1++;   }
    }
    if(nr1==0) g<<"nu exista";
    f.close();
    g.close();
    return 0;
}
```

## *Tema 50*

numere.out

```
4159 2689 16
```

numar.in

```
24 10 4159 88 7422 2689 2596 22 148 16

```

main.cpp

```
#include <iostream>
#include<fstream>
using namespace std;
int main()
{
    ifstream f("numar.in");
    ofstream g("numere.out");
    int nr1=0,nr2;
    long long x,d,s;
    while(f>>x)
    {
        s=0;
        for(d=2;d<=x/2;d++)
            if(x%d==0)s=s+d;
        if(s%2==0)
        {g<<x<<' ' ;   nr1++;   }
    }
    if(nr1==0) g<<"nu exista";
    f.close();
    g.close();
    return 0;
}

```