LABORATORY WORK N 6 (new)

File Processing
(using fstream)

The purpose of the work's - Learn practical skills in input, output and other operations with files.

Task for independent work

1. Study the section of lectures dedicated to work with files;
2. Develop an algorithm for solving the problem
3. Develop a program in C ++ language for solving problem
4. Run the program on your computer

Tasks for individual work

1. Create a file based on an array of integer numbers. Read this file and write the **even** numbers from this file to a new file and calculate the sum of these numbers
2. Create a file based on an array of integer numbers. Read this file and write **odd** numbers from this file into a new file and calculate the sum of these numbers
3. Create a file based on an array of integer numbers. Read this file and write numbers with **even** numbers from this file to a new file and calculate the average of these numbers
4. Create a file based on an array of integer numbers. Read this file and write numbers with **odd** numbers from the file to a new file and calculate the minimum of these numbers
5. Create a file based on an array of integer numbers. Read this file and write first **5 numbers** from the file into a new file and calculate the sum of these numbers
6. Create a file based on an array of integer numbers. Read this file and and write **last 3** numbers from the file to a new file and calculate the sum of these numbers
7. Create a file based on an array of integer numbers. Read this file and write r numbers satisfying condition 4 <X <12 from the file into a new file and calculate the sum of these numbers
8. Create a file based on an array of integer numbers. Read this file and write numbers under condition X <12 to a new file and calculate the sum of these numbers
9. Create a file based on an array of integer numbers Read this file and write numbers under condition X >12 to a new file and calculate the sum of these numbers

10.Create a file based on an array of integer numbers. Read tis file and write numbers of **divisible by 3** from the file to a new file and calculate the sum of these numbers
11.Create a file based on an array of integer numbers. Read this file file, write numbers of **indivisible numbers to 5** from the file to a new file and calculate the sum of these numbers
12.Create a file based on an array of integer numbers. Read this file file, write **positive** numbers from the file to a new file and calculate the sum of these numbers
13.Create a file based on an array of integer numbers. Read this file file, write **negative** numbers from the file to a new file and calculate the sum of these numbers
14.Create a file based on an array of integer numbers. Read this file and write numbers of **divisible by 3** from a file to a new file and calculate the **product** of these numbers
15.Create a file based on an array of integer numbers. Read this file file, write numbers of indivisible numbers to 5 from a file to a new file and calculate the **product** of these numbers

Examples

In c++ was proposed alternative method of files processing , using ifstream, ofstream, fstream.

Essential operators

```
fstream f;
f.open("d:\\vag.txt",ios::in);// open for input
f>>a // input from file
f.open("d:\\vag.txt",ios::out);// open for output
 f<<a<<"\n";// output to file
f.close(); // close
```

Consider some examples

When we use online system like JDOODLE.COM

İnstead ***d:\\vag.txt*** *write* **/myfiles/vag.txt**
THis file will be created on the server disk of Jdoodle

Example 1. **Write to file**

```
#include <iostream>
```

```
#include <fstream>
using namespace std;
int main() {
fstream f;
int a,i;
f.open("d:\\vag.txt",ios::out);
for (i=1;i<=10;i++)
{a=i*i;
f<<a<<"\n";
}
f.close();
return 0;
}
```

Example *2 Read from file* *with for*

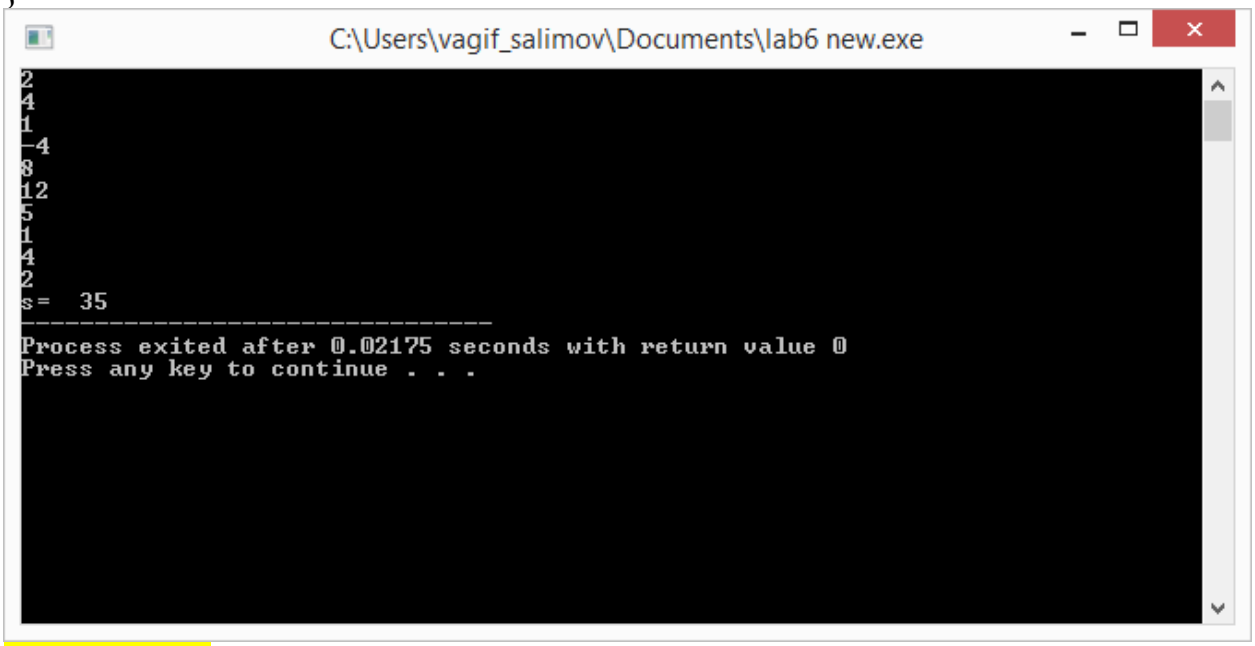
```
#include <iostream>
#include <fstream>
using namespace std;
int main() {
fstream f;
int a,i;
f.open("d:\\vag.txt",ios::in);
for (i=1;i<=10;i++)
{
f>>a; cout<<a<<"\n";
}
f.close();
return 0;
}
```

Example 3. Read from file with While

```
#include <iostream>
#include <fstream>
using namespace std;
int main(int argc, char** argv) {
fstream f;
int a,i;
f.open("d:\\vag.txt",ios::in);
while (f>>a)
{
cout<<a<<"\n";
}
f.close();
return 0;
}
```

4. Create a file based on an array of integer numbers. Read this file and write to a new file and calculate the sum of these numbers

```
#include <iostream>
using namespace std;
#include <fstream>
int main ()
{
fstream f,f1,f2;
int i, s, x;
int a [10] = {2,4,1, -4,8,12,5,1,4,2};
f .open ("d:\\vag652.txt",ios::out);
for (i = 0; i <10; i ++)
f<< a[i]<<endl;
f.close ();
f2.open ("d:\\vag652.txt", ios::in);
f1.open ("d:\\vag656.txt", ios::out);
s = 0;
while (f2>>x)
{s = s + x;
f1<<x<<endl;
 cout<<x<<endl;
}
cout<<"s=  "<<s;
f.close (); f1.close ();f2.close();
}
```



Using Jdodle

```
#include <iostream>
#include <fstream>
using namespace std;
int main() {
fstream vag, vag1;
```

```
int s=0,n=0;int i;int b;
int a[10]={3,5,7,2,8,6,4,11,12,13};
vag.open("/myfiles/vag.txt",ios::out);
for (i=0; i<10; i++){
    vag<<a[i];
    cout<<a[i]<<endl;
}
vag.close();
cout<<"----------------";
}
```

Good Luck !!!