

Министерство образования Республики Беларусь  
Учреждение образования  
«Брестский государственный технический университет»  
Кафедра ИИТ

Лабораторная работа №2  
за IV семестр  
по дисциплине: **ООТПиСТ**  
Тема: Потокковые классы

**Выполнил**  
студент 2 курса  
Корнаевич И. Д.

**Проверил**  
Миндер А. В.

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**Задание:** Напишите программу, которая печатает слова из файла, расположенные в порядке убывания частоты их появления. Перед каждым словом напечатайте число его появлений.

#### Исходный код

---

```
1  cd c#include <iostream>
2  #include <vector>
3  #include <map>
4  #include <fstream>
5  #include <utility>
6  #include <algorithm>
7  #include <iomanip>
8
9  template<class K, class V>
10 std::vector<std::pair<V, K>> reverseMap(std::map<K, V> initMap)
    {
11     std::vector<std::pair<V, K>> pairVector(0);
12     for (const auto&[key, value] : initMap) {
13         pairVector.push_back({value, key});
14     }
15     std::sort(pairVector.begin(), pairVector.end());
16     return pairVector;
17 }
18
19 int main() {
20     std::fstream file;
21     file.ignore('\n');
22     std::string word;
23     std::map<std::string, int> wordCount;
24
25     file.open("../text.txt");
26
27     while (!file.eof()) {
28         file >> word;
29         word.erase(remove_if(word.begin(), word.end(), [](char
30 c) { return !isalpha(c); }), word.end());
31         if (!word.empty()) {
32             wordCount[word]++;
33         }
34
35         auto countWord = reverseMap(wordCount);
36
37         for (auto it = countWord.rbegin(); it != countWord.rend();
38 ++it) {
39             std::cout << std::setw(5) << std::left << it->first <<
40 it->second << std::endl;
41         }
42     }
43 }
```

---

Тестовый текст:

What is Lorem Ipsum? Lorem Ipsum is simply dummy text of the printing and typesetting industry. Lorem Ipsum has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and scrambled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of Letraset sheets containing Lorem Ipsum passages, and more recently with desktop publishing software like Aldus PageMaker including versions of Lorem Ipsum. Why do we use it? It is a long established fact that a reader will be distracted by the readable content of a page when looking at its layout. The point of using Lorem Ipsum is that it has a more-or-less normal distribution of letters, as opposed to using 'Content here, content here', making it look like readable English. Many desktop publishing packages and web page editors now use Lorem Ipsum as their default model text, and a search for 'lorem ipsum' will uncover many web sites still in their infancy. Various versions have evolved over the years, sometimes by accident, sometimes on purpose (injected humour and the like).

#### Результаты (первые 50 строк)

---

1	23	the
2	21	of
3	18	Lorem
4	17	Ipsum
5	15	a
6	10	in
7	10	and
8	8	is
9	8	from
10	7	to
11	7	by
12	6	it
13	5	text
14	5	The
15	5	It
16	4	words
17	4	on
18	4	has
19	4	Latin
20	3	with
21	3	versions
22	3	use
23	3	their
24	3	s
25	3	over
26	3	making
27	3	like
28	3	injected
29	3	humour
30	3	as
31	3	are

```
32 2    you
33 2    years
34 2    will
35 2    which
36 2    when
37 2    web
38 2    using
39 2    typesetting
40 2    type
41 2    that
42 2    standard
43 2    sometimes
44 2    some
45 2    since
46 2    simply
47 2    reproduced
48 2    readable
49 2    publishing
50 2    popular
```

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**Вывод:** Была проведена работа с чтением файла. Также использованы `std::vector`, `std::map`, `std::string`, потоки ввода/вывода и итераторы.