**Практическая работа №12**

**Вариант №2 – Счет в банке.**

**Автор: Николаев-Аксенов И. С.**

**Группа: ИКБО-20-19**

**Код программы:**

*BankAccount.cpp:*

1. #include <iostream>
2. #include <string>
3. #include <fstream>
4. #include <vector>
5. using namespace std;
7. struct bank\_account
8. {
9. int num;
10. string name;
11. string surname;
12. string second\_name;
13. string address;
14. };
15. vector<bank\_account>bk;
17. void print\_data(bank\_account a)
18. {
19. cout << "Number : " << a.num << "**\n**Name : " << a.name << "**\n**Surname : " << a.surname << "**\n**Second Name : " << a.second\_name << "**\n**Address : " << a.address << endl;
20. cout << "\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\n**";
21. }
23. void write\_data\_to\_file()
24. {
25. ofstream ou("bank.txt");
27. if (ou.is\_open())
28. {
29. for (int i = 0; i < bk.size(); i++)
30. {
31. bank\_account temp = bk[i];
32. ou << temp.num << " " << temp.name << " "<< temp.surname << " "<< temp.second\_name << " "<< temp.address<< "**\n**";
33. }
34. }
35. ou.close();
36. }
38. void write\_data\_to\_binary()
39. {
40. bank\_account temp;
41. ofstream out("binary.txt", ostream::binary);
42. for (int i = 0; i <bk.size(); ++i)
43. out.write((char\*)&bk.at(i), sizeof(bank\_account));
45. out.close();
46. }
48. void read\_data\_from\_binary\_file()
49. {
50. ifstream fin("binary.txt", istream::binary);
51. bank\_account temp;
52. for (int i = 0; i < bk.size(); i++)
53. fin.read((char\*)&bk.at(i), sizeof(bank\_account));
55. fin.close();
56. }
58. void print\_all\_data()
59. {
60. for (int i = 0; i < bk.size(); i++)
61. print\_data(bk[i]);
62. }
64. void find()
65. {
66. int a;
67. cout << "Input number of account, which you want to find: ";
68. cin >> a;
69. cout << endl;
70. for (int i = 0; i < bk.size(); i++)
71. {
72. if (bk[i].num == a)
73. print\_data(bk[i]);
74. }
75. }
77. void change()
78. {
79. int a;
80. string b;
81. cout << "Input number of account, which you want to change : ";
82. cin >> a;
83. cout << endl;
85. cout << "Input new name : ";
86. cin >> b;
87. cout << endl;
89. read\_data\_from\_binary\_file();
90. for (int i = 0; i < bk.size(); i++)
91. {
92. if (bk[i].num == a)
93. bk[i].name = b;
94. }
95. write\_data\_to\_binary();
96. }
98. void del()
99. {
100. int a;
101. cout << "Input number of account, which you want to delete : ";
102. cin >> a;
103. cout << endl;
104. read\_data\_from\_binary\_file();
106. for (int i = 0; i < bk.size(); i++){
107. if (bk[i].num == a)
108. bk.erase(bk.begin() + i);
109. }
110. write\_data\_to\_binary();
111. }
113. int main()
114. {
115. bank\_account first{1234567, "Ivan", "Ivanov", "Ivanov", "Perm"};
116. bk.push\_back(first);
118. bank\_account second{7654321, "Alex", "Alexandrov", "Sergeevich", "Moscow"};
119. bk.push\_back(second);
121. write\_data\_to\_file();
122. print\_all\_data();
123. cout << "\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\n**";
125. write\_data\_to\_binary();
126. read\_data\_from\_binary\_file();
127. find();
128. cout << "\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\n**";
130. change();
131. print\_all\_data();
132. cout << "\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\n**";
134. del();
135. print\_all\_data();
136. }

**Результат выполнения программы:**

