

```

1 // Please see README.txt
2 // We will go over the answers in class.
3 // Thank you.
4
5 #include <iostream>
6 #include <string>
7
8 using namespace std;
9
10 string type = "Credit";
11
12 class credit_card {
13 public:
14     credit_card() = default;
15
16     explicit credit_card(const double& balance, string com = "Disney") :
17         com_(move(com)), balance_(balance) {}
18
19     void display_info() const {
20         cout << credit_card::type_ << " [" << this->com_ << "]: " << this->balance_ <<
endl;
21     }
22
23     void set_com(const string& com) {
24         this->com_ = com;
25     }
26
27 private:
28     static string type_;
29     string com_{ "N/A" };
30     double balance_{ 0 };
31 };
32
33 string credit_card::type_ = type;
34
35 credit_card& update_credit_card(const double& balance) {
36     credit_card cc1{ balance };
37     static credit_card* cc2 = new credit_card{ 100 };
38     cc1.set_com("Tesla");
39     *cc2 = cc1;
40     return *cc2;
41 }
42
43 int main()
44 {
45     credit_card cc3 = update_credit_card(300);
46     cc3.display_info();
47
48     credit_card cc4 = credit_card{ cc3 };
49     cc4.set_com("Zoom");
50     cc4.display_info();
51
52     credit_card* cc5 = new credit_card{ update_credit_card(500) };
53     cc5->display_info();
54
55     cc3.set_com("Google");
56     cc4.display_info();
57
58     return 0;
59 }

```

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60
61 //- Memory Area 1: Environment
62 //- Memory Area 2 : Runtime Stack
63 //- Memory Area 3 : Free - store
64 //- Memory Area 4A : Uninitialized Data
65 //- Memory Area 4B : Initialized Data
66 //- Memory Area 5 : Binary Program
67
68 //a. In which memory area is this element stored ? Please circle your choice and
  explain why ?
69 //b. The lifetime, beginning & end, of this element ? Why ?
70
71 //c. What is the output of the program?
72
73 /*
74 Credit [Tesla]: 300
75 Credit [Zoom]: 300
76 Credit [Tesla]: 500
77 Credit [Zoom]: 300
78 */
```