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1: ////////////////////////////////////////////////////////////////////////
2: // Faculty of Computing, Universiti Teknologi Malaysia
3: // SCSJ1023- Programming Technique II
4: // Semester 1, 2017/2018
5: // Skill-based Test 2
6: // November 24, 2017
7: // Solution
8: ////////////////////////////////////////////////////////////////////////
9: // Test run start:  start 11:27pm, End: 11:42pm, Duration: 15min , Allocation 15 x
10:
11: #include<iostream>
12: using namespace std;
13:
14: // 4m. 1m each.
15: class Contact{
16:     private:
17:         string phone;
18:     public:
19:         Contact(string p=""){phone = p;}
20:         string getPhone() const {return phone;}
21: };
22:
23: // 11:29pm
24:
25: // 4m. 1m each.
26: class Car{
27:     private:
28:         string plate;
29:     public:
30:         Car(string p=""){plate = p;}
31:         string getPlate() const {return plate;}
32: };
33:
34:
35: // class defition: 7
36: class Customer{
37:     private:
38:         string name;
39:         Contact contact;  // 1m goes to oop concept: composition
40:         Car *car;         // 1m goes to oop concept: aggregation
41:
42:     public:
43:         Customer(string n="", string p=""):contact(p){  // 1m
44:             name = n;
45:             car = NULL;  // 1m goes to oop concept: aggregation
46:         }
47:
48:     void setRentedCar(Car *c){car =c;}  // 1m
49:     string getName() const {return name;} // 1m
50:     string getPhoneNumber() const {return contact.getPhone();}  // 1m   + 1m for compositon
51:
52:     string getRentedCarPlate() const {
53:         if (car) return car->getPlate();  // 1m   + 1m for aggregation + 1m for condition
54:         return "";
55:     }
56:
57: };
58:
59: // 11:32pm
60:
```

```
61:
62: int main()
63: {
64:     Car c1("JSQ245");  // 1m
65:     Customer customers[2] = { {"Ahmad Kamal", "015-75769800"},    // array creation: 2m
66:                               {"Siti Nurdiana Abdullah","014-8889900"}
67:                             };
68:     customers[0].setRentedCar(&c1);  // 1m
69:
70:     // 11:37pm
71:
72:     // printing the array: 4m. 1m each
73:     for (int i=0; i<2; i++){
74:         cout << "Customer's Name: " << customers[i].getName() << endl;
75:         cout << "Phone Number: " << customers[i].getPhoneNumber() << endl;
76:         cout << "Rented Car  : " << customers[i].getRentedCarPlate() << endl;
77:         cout << endl;
78:     }
79:
80:     // 11:39
81:     return 0;
82: }
83:
84: // 11:42pm
```