

CCCS 111 – Introduction to Programming

University of Jeddah

Course Project: Car Rental Application

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App Idea:-

The idea behind the program is that by selecting number one, we may register customer data or search for a customer. We can add new vehicles by entering their information, and we can also search for vehicle information by selecting number 2.

Code

```
Project new (Global Scope)
1  /*Renad Mohammed Alqahtani
2  Gharam Badroon
3  Rahaf Alghamdi
4  */
5
6
7  #include<stdio.h>
8  #include<string.h>
9  #define SIZE 30
10
11  void serachCustomer(char search[], int type);
12  void rentalcar();
13  void service();
14  void search_h();
15  int main() {
16      int choose;
17      char customer_name[SIZE], phone[12], id[SIZE], make[SIZE], search[SIZE], model_name[SIZE], model_year[SIZE], plate_number[SIZE], new_id[SIZE];
18      int repeat = 1;
19      FILE* fPtr;
20      FILE* rPtr;
21      FILE* wPtr;
22      do {
23          rentalcar();
24          printf("\n Please enter your choose:");
25          scanf_s("%d", &choose);
26          switch (choose) {
27              case 1:
28                  service();
29                  printf("\n>Enter your choose:");
30                  scanf_s("%d", &choose);
31                  switch (choose)
32
33                      case 1:
34                          fopen_s(&fPtr, "Customer.txt", "a");
35                          printf("-Enter customer ID:-\n");
36                          scanf_s("%s", id, SIZE - 1);
37                          printf("-Enter customer name:-\n");
38                          scanf_s("%s", customer_name, SIZE - 1);
39                          printf("-Enter phone number:-\n");
40                          scanf_s("%s", phone, 12 - 1);
41                          fprintf(fPtr, "%s%25s%20s\n", id, customer_name, phone);
42
43                          fclose(fPtr);
44                          break;
45                      case 2:
46                          search_h();
47                          printf("\n>Enter your choose:");
48                          scanf_s("%d", &choose);
49
50                          {
51
52                              if (choose == 1) {
53                                  printf("-Please enter ID to serach:-\n");
54                                  scanf_s("%s", &search, SIZE);
55                                  serachCustomer(search, 1);
56                              }
57                              else if (choose == 2) {
58
59                                  printf("-Please enter customer name to serach:-\n");
60                                  scanf_s("%s", &search, SIZE);
61                                  serachCustomer(search, 2);
62                              }
63                              else if (choose == 3) {
64                                  printf("-Please enter phone to serach:-\n");
65                                  scanf_s("%s", search, SIZE);
66                                  serachCustomer(search, 3);
67                              }
68                              else if (choose == 4) {
69                                  printf("you return back to the list\n");
70                                  printf("Hello Again ");
71                                  printf("-----\n");
72                                  break;
73                              }
74                              else {
75                                  printf("unknown\n");
76                                  puts("good bye <3");
77
78                                  return 0;
79                              }
80                          }
81                      default:
82                          break;
83                  }
84              break;
85          case 2:
86              printf("1-Add a new vehicle\n");
87              printf("2-Search vehicle\n");
88              printf("3-Back \n");
89              puts("-----");
90              printf("\n>Enter your choice:");
91              scanf_s("%d", &choose);
92              {
93                  if (choose == 1) {
94                      fopen_s(&fPtr, "vehicle.txt", "a");
95                      printf("-Enter mdole year:-\n");
96                      scanf_s("%s", model_year, SIZE);
97                      printf("-Enter make:-\n");
98                      scanf_s("%s", make, SIZE);
99                      printf("-Enter model name:-\n");
```

```

100 scanf_s("%s", model_name, SIZE);
101 printf("-Enter plate number:-\n");
102 scanf_s("%s", plate_number, SIZE);
103 printf("-Enter customer ID number:-\n");
104 scanf_s("%s", id, SIZE);
105 fprintf(fPtr, "%s\t%s\t%s\t%s\t%s\n", model_year, make, model_name, plate_number, id);
106 fclose(fPtr);
107 }
108 else if (choose == 2) {
109     printf("1- Search by Model year + Make + Model name\n");
110     printf("2- Search by License plate number \n");
111     printf("3- Search for renting vehicle\n");
112     printf("4- Back\n");
113     puts("-----");
114     printf("\n>>Enter your choose:");
115     scanf_s("%d", &choose);
116
117
118     if (choose == 1) {
119         char model_search[SIZE], make_search[SIZE], model_name_search[SIZE];
120         printf("-Please enter Model year , Make and Model name to serach:-\n");
121         scanf_s("%s", &model_search, SIZE);
122         scanf_s("%s", &make_search, SIZE);
123         scanf_s("%s", &model_name_search, SIZE);
124         fopen_s(&fPtr, "vehicle.txt", "r");
125         while (!feof(fPtr))
126         {
127             fscanf_s(fPtr, "%s\t%s\t%s\t%s\t%s\n", model_year, SIZE, make, SIZE, model_name, SIZE, plate_number, SIZE, id, SIZE);
128             if ((memcmp(model_year, model_search, strlen(model_search))) && (!memcmp(make, make_search, strlen(make_search))) && (!memcmp(model_name, model_name_search, strlen(model_name_search))))
129             {
130                 printf("%s\t%s\t%s\t%s\t%s\n", model_year, make, model_name, plate_number, id);
131             }
132         }
133         fclose(fPtr);
134     }
135
136     else if (choose == 2) {
137
138         printf("-Please enter License plate number to serach:-\n");
139         scanf_s("%s", &search, SIZE);
140         fopen_s(&fPtr, "vehicle.txt", "r");
141
142         while (!feof(fPtr))
143         {
144             fscanf_s(fPtr, "%s\t%s\t%s\t%s\t%s\n", model_year, SIZE, make, SIZE, model_name, SIZE, plate_number, SIZE, id, SIZE);
145             if ((memcmp(plate_number, search, strlen(search))))
146             {
147                 printf("%s\t%s\t%s\t%s\t%s\n", model_year, make, model_name, plate_number, id);
148             }
149         }
150         fclose(fPtr);
151     }
152
153     else if (choose == 3) {
154
155         fopen_s(&fPtr, "vehicle.txt", "r");
156
157         while (!feof(fPtr))
158         {
159             fscanf_s(fPtr, "%s\t%s\t%s\t%s\t%s\n", model_year, SIZE, make, SIZE, model_name, SIZE, plate_number, SIZE, id, SIZE);
160             if ((memcmp(id, "0", strlen("0"))))
161             {
162                 printf("%s\t%s\t%s\t%s\t%s\n", model_year, make, model_name, plate_number, id);
163             }
164         }
165         fclose(fPtr);
166     }
167
168     else if (choose == 4)
169     {
170         printf(" you return back to the list\n");
171         printf("Hello again");
172         printf("-----\n");
173         break;
174     }
175
176     else
177     {
178         printf("unknown\n");
179         puts("good bys <3");
180         return 0;
181     }
182 }
183
184 else
185 {
186     printf("unknown\n");
187     return 0;
188 }
189
190 case 3:
191     repeat = 0;
192     printf("\n good bye <3 \n");
193
194     break;
195
196 }
197 } while (repeat);
198
199 }
200

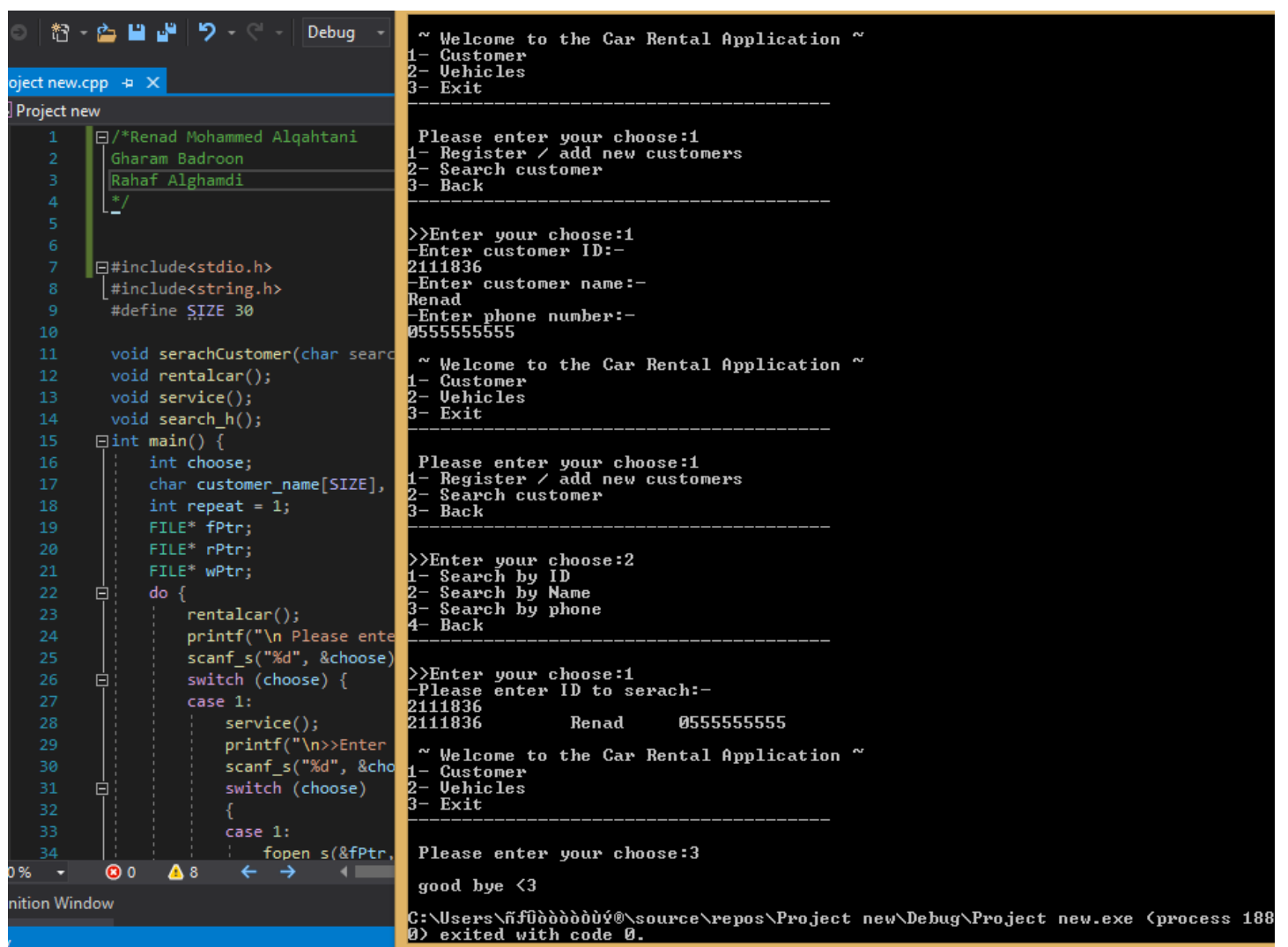
```

```

228 void rentalcar() {
229     puts("");
230     printf(" ~ Welcome to the Car Rental Application ~\n");
231     printf("1- Customer\n");
232     printf("2- Vehicles \n");
233     printf("3- Exit\n");
234     puts("-----");
235 }
236
237 void service() {
238     printf("1- Register / add new customers\n");
239     printf("2- Search customer \n");
240     printf("3- Back\n");
241     puts("-----");
242 }
243
244 void search_h() {
245     printf("1- Search by ID\n");
246     printf("2- Search by Name \n");
247     printf("3- Search by phone\n");
248     printf("4- Back\n");
249     puts("-----");
250 }
251
252 void serachCustomer(char search[], int type) {
253     char id[SIZE], customer_name[SIZE], phone[12];
254     FILE* fPtr;
255     fopen_s(&fPtr, "Customer.txt", "r");
256
257     while (!feof(fPtr))
258     {
259         fscanf_s(fPtr, "%s%s%s" id, SIZE, customer_name, SIZE, phone, 12);
260
261         if (type == 1 && !memcmp(id, search, strlen(search)))
262         {
263             printf("%4s%13s%15s\n", id, customer_name, phone);
264             break;
265         }
266
267         else if (type == 2 && !memcmp(customer_name, search, strlen(search)))
268         {
269             printf("%4s%13s%15s\n", id, customer_name, phone);
270             break;
271         }
272
273         else if (type == 3 && !memcmp(phone, search, strlen(search))) {
274             printf("%4s%13s%15s\n", id, customer_name, phone);
275             break;
276         }
277     }
278     fclose(fPtr);
279 }

```

Output 1

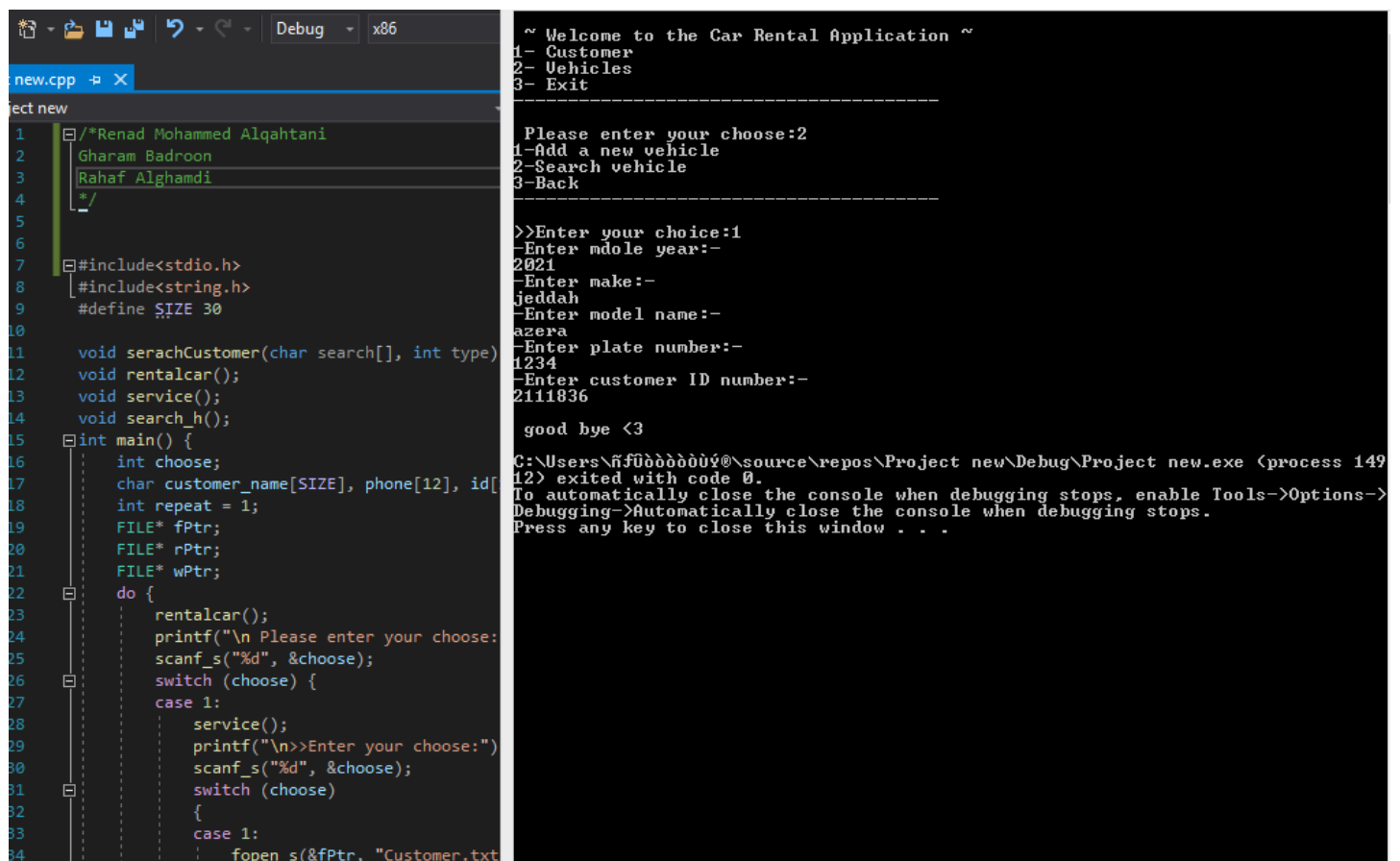


The image shows a C++ IDE with a source code editor on the left and a debug console on the right. The source code is for a car rental application. The debug console shows the output of the program, including the welcome message, the main menu, and the results of the search function.

```
1  /*Renad Mohammed Alqahtani
2  Gharam Badroon
3  Rahaf Alghamdi
4  */
5
6
7  #include<stdio.h>
8  #include<string.h>
9  #define SIZE 30
10
11 void serachCustomer(char search
12 void rentalcar();
13 void service();
14 void search_h();
15 int main() {
16     int choose;
17     char customer_name[SIZE],
18     int repeat = 1;
19     FILE* fPtr;
20     FILE* rPtr;
21     FILE* wPtr;
22     do {
23         rentalcar();
24         printf("\n Please ente
25         scanf_s("%d", &choose)
26         switch (choose) {
27             case 1:
28                 service();
29                 printf("\n>>Enter
30                 scanf_s("%d", &cho
31                 switch (choose)
32                 {
33                     case 1:
34                         fopen s(&fPtr,
```

```
~ Welcome to the Car Rental Application ~
1- Customer
2- Vehicles
3- Exit
-----
Please enter your choose:1
1- Register / add new customers
2- Search customer
3- Back
-----
>>Enter your choose:1
-Enter customer ID:-
2111836
-Enter customer name:-
Renad
-Enter phone number:-
0555555555
~ Welcome to the Car Rental Application ~
1- Customer
2- Vehicles
3- Exit
-----
Please enter your choose:1
1- Register / add new customers
2- Search customer
3- Back
-----
>>Enter your choose:2
1- Search by ID
2- Search by Name
3- Search by phone
4- Back
-----
>>Enter your choose:1
-Please enter ID to serach:-
2111836
2111836      Renad      0555555555
~ Welcome to the Car Rental Application ~
1- Customer
2- Vehicles
3- Exit
-----
Please enter your choose:3
good bye <3
C:\Users\ñf0ððððð00ÿ\source\repos\Project new\Debug\Project new.exe (process 188
0) exited with code 0.
```

Output 2

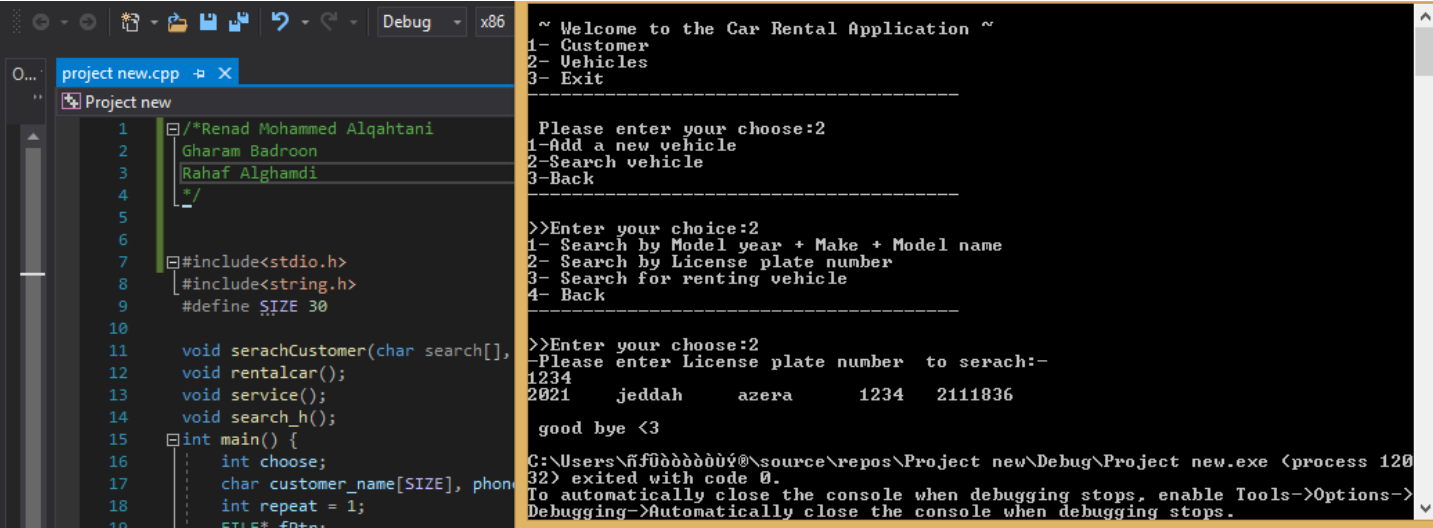


The image shows a C++ IDE with a code editor on the left and a console window on the right. The code editor displays the source code for a car rental application. The console window shows the program's execution, including a welcome message, a menu, and user input for various options like adding a vehicle, searching, and exiting. The program ends with a 'good bye' message and a confirmation to close the window.

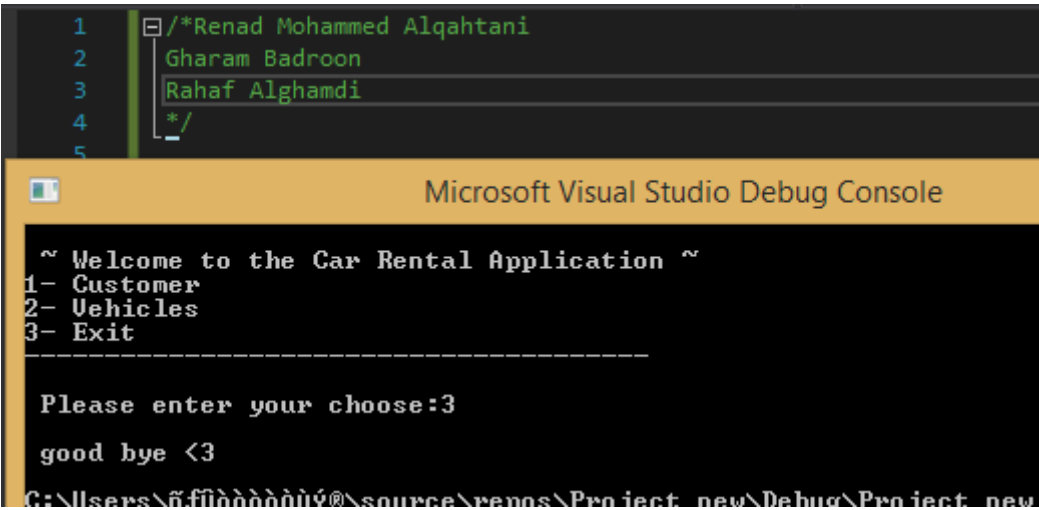
```
1  /*Renad Mohammed Alqahtani
2  Gharam Badroon
3  Rahaf Alghamdi
4  */
5
6
7  #include<stdio.h>
8  #include<string.h>
9  #define SIZE 30
10
11 void serachCustomer(char search[], int type)
12 void rentalcar();
13 void service();
14 void search_h();
15 int main() {
16     int choose;
17     char customer_name[SIZE], phone[12], id[12];
18     int repeat = 1;
19     FILE* fPtr;
20     FILE* rPtr;
21     FILE* wPtr;
22     do {
23         rentalcar();
24         printf("\n Please enter your choose:");
25         scanf_s("%d", &choose);
26         switch (choose) {
27             case 1:
28                 service();
29                 printf("\n>>Enter your choose:");
30                 scanf_s("%d", &choose);
31                 switch (choose)
32                 {
33                     case 1:
34                         fopen_s(&fPtr, "Customer.txt", "a+");
35                         if (fPtr != NULL)
36                         {
37                             fprintf(fPtr, "%s\n", customer_name);
38                             fprintf(fPtr, "%s\n", phone);
39                             fprintf(fPtr, "%s\n", id);
40                             fclose(fPtr);
41                         }
42                     case 2:
43                         search_h();
44                     case 3:
45                         break;
46                 }
47             case 2:
48                 search_h();
49             case 3:
50                 break;
51             default:
52                 printf("Invalid choice\n");
53             }
54         } while (repeat);
55     } while (repeat);
56     printf("good bye <3\n");
57     return 0;
58 }
```

```
~ Welcome to the Car Rental Application ~
1- Customer
2- Vehicles
3- Exit
-----
Please enter your choose:2
1-Add a new vehicle
2-Search vehicle
3-Back
-----
>>Enter your choose:1
-Enter mdole year:-
2021
-Enter make:-
jeddah
-Enter model name:-
azera
-Enter plate number:-
1234
-Enter customer ID number:-
2111836
good bye <3
C:\Users\af00000000\source\repos\Project new\Debug\Project new.exe (process 14912) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```

Output 3



Output 4



صورة للمجلد

Debug	مجلد ملفات	٢٠٢٣/٠٥/٠٩ ص ٠٢:٣٣
Customer	مستند نص	٢٠٢٣/٠٥/٠٩ ص ٠٢:٣٤
project new.cpp	C++ Source	٢٠٢٣/٠٥/٠٩ ص ٠٢:٣٣
Project new.vcxproj	VC++ Project	٢٠٢٣/٠٥/٠٩ ص ١٢:٢٨
Project new.vcxproj.filters	VC++ Project Filte...	٢٠٢٣/٠٥/٠٩ ص ١٢:٢٨
Project new.vcxproj.user	Per-User Project O...	٢٠٢٣/٠٥/٠٩ ص ١٢:٢٧
vehicle	مستند نص	٢٠٢٣/٠٥/٠٩ ص ٠٢:٣٧