**PARKING MANAGEMENT SYSTEM**

**GROUP MEMBERS:**

MUHAMMAD USMAN (SP22-BSE-073)

MUAAZ AHMAD (SP22-BSE-042)

**SUBMITTED TO:**

MISS FATIMA ZULFIQAR

**CODE**

[**PARKING MANAGEMENT SYSTEM.cpp**](PARKING%20MANAGEMENT%20SYSTEM.cpp)

#include <iostream>

#include<windows.h>

#include<fstream>

#include<string.h>

using namespace std;

struct cars

{

string vehicle\_no;

string vehicle\_type;

string owner\_name;

string lastname;

string cnic\_no;

string cell\_no;

};

cars c;

void rateList();

void add\_vehicle();

void searcher();

void deleter();

void total();

void earntotal();

void display();

void record\_delete();

void endup();

int main()

{

system("cls");

HANDLE h = GetStdHandle(STD\_OUTPUT\_HANDLE);

SetConsoleTextAttribute(h,FOREGROUND\_RED );

cout<<endl<<endl<<endl;

cout<<"\t\t\t\* \* \* \*\*\*\*\*\*\* \* \*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* "<<endl;

cout<<"\t\t\t\* \* \* \* \* \* \* \* \* \* \* \* "<<endl;

cout<<"\t\t\t\* \* \* \* \* \* \* \* \* \* \* \* "<<endl;

SetConsoleTextAttribute(h,0x6 );

cout<<"\t\t\t\* \* \* \*\*\*\*\*\*\*\* \* \* \* \* \* \* \* \*\*\*\*\*\* "<<endl;

cout<<"\t\t\t\* \* \* \* \* \* \* \* \* \* \* \* "<<endl;

cout<<"\t\t\t\* \* \* \* \* \* \* \* \* \* \* \* "<<endl;

SetConsoleTextAttribute(h,FOREGROUND\_GREEN );

cout<<"\t\t\t \*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\*\* \*\*\*\*\* \*\*\*\*\*\* \* \* \* \*\*\*\*\*\* "<<endl;

cin.ignore();

cin.get();

label:

system ("cls");

SetConsoleTextAttribute(h,FOREGROUND\_BLUE );

cout<<endl<<endl<<endl;

cout<<"\t\t<--------------------------------------------------------->"<<endl;

cout<<"\t\t | Press 1 to see Rate List. |"<<endl;

cout<<"\t\t<--------------------------------------------------------->"<<endl;

cout<<"\t\t | Press 2 to add vehicle. |"<<endl;

cout<<"\t\t<--------------------------------------------------------->"<<endl;

cout<<"\t\t | Press 3 to search a vehicle. |"<<endl;

cout<<"\t\t<--------------------------------------------------------->"<<endl;

cout<<"\t\t | Press 4 to delete the vehicle. |"<<endl;

cout<<"\t\t<--------------------------------------------------------->"<<endl;

cout<<"\t\t | Press 5 to show total vehicles & Amount. |"<<endl;

cout<<"\t\t<--------------------------------------------------------->"<<endl;

cout<<"\t\t | Press 6 to show the record. |"<<endl;

cout<<"\t\t<--------------------------------------------------------->"<<endl;

cout<<"\t\t | Press 7 to show Amount Earned. |"<<endl;

cout<<"\t\t<--------------------------------------------------------->"<<endl;

cout<<"\t\t | Press 8 to Delete The Whole Record. |"<<endl;

cout<<"\t\t<--------------------------------------------------------->"<<endl;

cout<<"\t\t | Press 9 to Exit. |"<<endl;

cout<<"\t\t<--------------------------------------------------------->"<<endl<<endl;

int choice;

cout<<"\t\tEnter your Choice: ";

cin>>choice;

while (choice < 0 || choice > 9)

{

cout<<"\t\tInvalid! Re-Enter your Choice: ";

cin>>choice;

}

switch (choice)

{

case 1:

system ("cls");

rateList();

goto label;

break;

case 2:

system ("cls");

add\_vehicle();

goto label;

break;

case 3:

system ("cls");

searcher();

goto label;

break;

case 4:

system ("cls");

deleter();

goto label;

break;

case 5:

system ("cls");

total();

goto label;

break;

case 6:

system ("cls");

display();

goto label;

break;

case 7:

system ("cls");

earntotal();

goto label;

break;

case 8:

system ("cls");

record\_delete();

goto label;

break;

case 9:

system ("cls");

endup();

exit(0);

return 0;

}

return 0;

}

void rateList()

{

cout<<endl<<endl<<endl;

cout<<"\t\t\t---------------------------------------"<<endl;

cout<<"\t\t\t| RATE LIST |"<<endl;

cout<<"\t\t\t---------------------------------------"<<endl;

cout<<"\t\t\t| BIKE.\t|\tCAR.\t|\tBUS."<<" |"<<endl;

cout<<"\t\t\t---------------------------------------"<<endl;

cout<<"\t\t\t| "<<100<<"\t|\t"<<200<<"\t|\t"<<300<<" |"<<endl;

cout<<"\t\t\t---------------------------------------"<<endl;

cout<<"\t\t\t| |"<<endl;

cout<<"\t\t\t| Maximum Parking = 50 Vehicles. |"<<endl;

cout<<"\t\t\t| |"<<endl;

cout<<"\t\t\t---------------------------------------"<<endl;

cin.ignore();

cin.get();

}

void add\_vehicle()

{

HANDLE h = GetStdHandle(STD\_OUTPUT\_HANDLE);

int type;

ofstream write;

write.open("vehicles.txt", ios::app );

if(write.fail())

{

SetConsoleTextAttribute(h,FOREGROUND\_RED );

cout<<"\t\t\t\tNO DATA IN FILE."<<endl<<endl;

cout<<"\t\t\tPress Enter to continue..............";

cin.ignore();

cin.get();

}

SetConsoleTextAttribute(h,FOREGROUND\_BLUE );

cout<<endl<<endl<<endl;

cout<<"\t\t\tPlease Enter vehicle Number (ABC-0000) >==> ";

cin>>c.vehicle\_no;

cout<<"\n\t\t\tPlease Enter vehicle type(1 for Bike / 2 for Car / 3 for Bus) >==> ";

cin>>type;

while (type < 1 || type > 3)

{

SetConsoleTextAttribute(h,FOREGROUND\_RED );

cout<<"\t\t\tPlease Enter vehicle type(1 for Bike / 2 for Car / 3 for Bus) >==> ";

cin>>type;

}

switch(type)

{

case 1:

c.vehicle\_type = "Bike";

break;

case 2:

c.vehicle\_type = "Car";

break;

case 3:

c.vehicle\_type = "Bus";

}

SetConsoleTextAttribute(h,FOREGROUND\_BLUE );

cout<<"\n\t\t\tPLease enter your name (First,Last) >==> ";

cin.ignore();

getline(cin>>c.owner\_name,c.lastname);

if(c.lastname.empty())

{

c.lastname="NO\_lastname";

}

cout<<"\n\t\t\tPLease enter your CNIC NO. ( 00000-0000000-0 ) >==> ";

cin>>c.cnic\_no;

cout<<"\n\t\t\tPLease enter car Phone NO. ( 0000-0000000 ) >==> ";

cin>>c.cell\_no;

write <<c.vehicle\_no<<" "<<c.vehicle\_type<<" "<<c.owner\_name<<" "<<c.lastname<<" "<<c.cnic\_no<<" "<<c.cell\_no<<"\n";

write.close();

cout<<endl<<endl<<"\t\t\t\tyour vehicle is successfully parked....... "<<endl;

cin.ignore();

cin.get();

}

void searcher()

{

cout<<endl<<endl<<endl;

string x;

bool check=false;

cout<<"\t\t\tPlease Enter vehicle Number to search (ABC-0000) >==> ";

cin>>x;

cout<<endl<<endl;

ifstream read;

read.open("vehicles.txt");

if(read.fail())

{

system("color 4");

cout<<"\t\t\t\tNO DATA IN FILE."<<endl<<endl;

cout<<"\t\t\tPress Enter to continue..............";

cin.ignore();

cin.get();

}

else

{

while( read>>c.vehicle\_no>>c.vehicle\_type>>c.owner\_name>>c.lastname>>c.cnic\_no>>c.cell\_no)

{

if(c.vehicle\_no == x)

{

system("color 0");

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t RECORD "<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t| Vehicle Number >==> "<<c.vehicle\_no<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t| Vehicle Type >==> "<<c.vehicle\_type<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

if(c.lastname=="NO\_lastname")

{

cout<<"\t\t\t| Owner Name >==> "<<c.owner\_name<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

}

else

{

cout<<"\t\t\t| Owner Name >==> "<<c.owner\_name<<' '<<c.lastname<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

}

cout<<"\t\t\t| CNIC Number >==> "<<c.cnic\_no<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t| Contact No. >==> "<<c.cell\_no<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t<--------------------------------------------------------------------------------------->"<<endl;

check = true;

}

}

if(check==false)

{

system("color 4");

cout<<"\n\n\t\t\t\tVehicle Not Found"<<endl<<endl;

cout<<"\t\t\tPress Enter Key..........";

}

cin.ignore();

cin.get();

}

read.close();

}

void deleter()

{

HANDLE h = GetStdHandle(STD\_OUTPUT\_HANDLE);

cout<<endl<<endl<<endl;

string x;

bool check=false;

cout<<"\t\t\tPlease Enter vehicle Number to delete (ABC-0000) >==> ";

cin>>x;

cout<<endl<<endl;

ifstream read;

ofstream temp;

ofstream earn;

read.open("vehicles.txt");

temp.open("temp.txt",ios::app);

earn.open("earn.txt",ios::app);

if(read.fail())

{

system("color 4");

cout<<"\t\t\t\tNO DATA IN FILE."<<endl<<endl;

cout<<"\t\t\tPress Enter to continue..............";

cin.ignore();

cin.get();

}

else

{

while(read>>c.vehicle\_no>>c.vehicle\_type>>c.owner\_name>>c.lastname>>c.cnic\_no>>c.cell\_no)

{

if(c.vehicle\_no==x)

{

system("color 4");

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t RECORD "<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t| Vehicle Number >==> "<<c.vehicle\_no<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t| Vehicle Type >==> "<<c.vehicle\_type<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

if(c.lastname=="NO\_lastname")

{

cout<<"\t\t\t| Owner Name >==> "<<c.owner\_name<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

}

else

{

cout<<"\t\t\t| Owner Name >==> "<<c.owner\_name<<' '<<c.lastname<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

}

cout<<"\t\t\t| CNIC Number >==> "<<c.cnic\_no<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t| Contact No. >==> "<<c.cell\_no<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t<--------------------------------------------------------------------------------------->"<<endl;

earn<<c.vehicle\_no<<" "<<c.vehicle\_type<<" "<<c.owner\_name<<" "<<c.lastname<<" "<<c.cnic\_no<<" "<<c.cell\_no<<"\n";

check=true;

}

else

{

temp<<c.vehicle\_no<<" "<<c.vehicle\_type<<" "<<c.owner\_name<<" "<<c.lastname<<" "<<c.cnic\_no<<" "<<c.cell\_no<<"\n";

}

}

if(check==false)

{

system("color 4");

cout<<"\n\n\t\t\t\tVehicle Not Found"<<endl<<endl;

cout<<"\t\t\tPress Enter Key..........";

}

else

{

SetConsoleTextAttribute(h,0x6 );

cout<<"\n\t\t\t\tVehicle Deleted Successfully."<<endl<<endl;

cout<<"\t\t\tPress Enter Key..........";

}

cin.ignore();

cin.get();

}

earn.close();

temp.close();

read.close();

remove ("vehicles.txt");

rename ("temp.txt","vehicles.txt");

}

void total()

{

HANDLE h = GetStdHandle(STD\_OUTPUT\_HANDLE);

SetConsoleTextAttribute(h,0x6 );

int car=0; int bike=0; int bus=0; int total\_vehicle=0; int sum=0;

cout<<endl<<endl<<endl;

bool check = false;

ifstream read;

read.open("vehicles.txt");

if(read.fail())

{

system("color 4");

cout<<"\t\t\t\t\tNO DATA IN FILE."<<endl<<endl;

cout<<"\t\t\tPress Enter to continue..............";

cin.ignore();

cin.get();

}

else

{

while(read>>c.vehicle\_no>>c.vehicle\_type>>c.owner\_name>>c.lastname>>c.cnic\_no>>c.cell\_no)

{

if(c.vehicle\_type == "Bike")

{

bike++;

total\_vehicle++;

sum = sum + 100;

}

else if (c.vehicle\_type == "Car")

{

car++;

total\_vehicle++;

sum = sum + 200;

}

else

{

bus++;

total\_vehicle++;

sum = sum + 300;

}

check=true;

}

if(check==false)

{

system("color 4");

cout<<"\t\t\tVehicles Record Not Found.\n\n\t\t\tPress Enter Key to continue.........."<<endl;

}

else

{

cout<<"\t\t\t-----------------------------------------------------------------------"<<endl;

cout<<"\t\t\t| TOTAL VEHICLES & AMOUNT. |"<<endl;

cout<<"\t\t\t-----------------------------------------------------------------------"<<endl<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

cout<<"\t\t\t\t| BIKES >==> "<<bike<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

cout<<"\t\t\t\t| Cars >==> "<<car<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

cout<<"\t\t\t\t| Buses >==> "<<bus<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

cout<<"\t\t\t\t| Total Vehicles >==> "<<total\_vehicle<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

cout<<"\t\t\t\t| "<<endl;

cout<<"\t\t\t\t| Current Amount >==> "<<sum<<endl;

cout<<"\t\t\t\t| "<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

}

cin.ignore();

cin.get();

}

read.close();

}

void earntotal()

{

HANDLE h = GetStdHandle(STD\_OUTPUT\_HANDLE);

SetConsoleTextAttribute(h,0x2 );

int car=0; int bike=0; int bus=0; int total\_vehicle=0; int sum=0;

cout<<endl<<endl<<endl;

bool check = false;

ifstream read;

read.open("earn.txt");

if(read.fail())

{

system("color 4");

cout<<"\t\t\t\tNO DATA IN FILE."<<endl<<endl;

cout<<"\t\t\tPress Enter to continue..............";

cin.ignore();

cin.get();

}

else

{

while( read>>c.vehicle\_no>>c.vehicle\_type>>c.owner\_name>>c.lastname>>c.cnic\_no>>c.cell\_no)

{

if(c.vehicle\_type == "Bike")

{

bike++;

total\_vehicle++;

sum = sum + 100;

}

else if (c.vehicle\_type == "Car")

{

car++;

total\_vehicle++;

sum = sum + 200;

}

else

{

bus++;

total\_vehicle++;

sum = sum + 300;

}

check=true;

}

if(check==false)

{

system("color 4");

cout<<"\t\t\t\tVehicles Record Not Found.\n\n\t\t\tPress Enter Key to continue.........."<<endl;

cin.ignore();

cin.get();

}

else

{

cout<<"\t\t\t-----------------------------------------------------------------------"<<endl;

cout<<"\t\t\t| TOTAL VEHICLES & AMOUNT. |"<<endl;

cout<<"\t\t\t-----------------------------------------------------------------------"<<endl<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

cout<<"\t\t\t\t| BIKES >==> "<<bike<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

cout<<"\t\t\t\t| Cars >==> "<<car<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

cout<<"\t\t\t\t| Buses >==> "<<bus<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

cout<<"\t\t\t\t| Total Vehicles >==> "<<total\_vehicle<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl<<endl;

cout<<"\t\t\t\t----------------------------------------------------"<<endl;

cout<<"\t\t\t\t| "<<endl;

cout<<"\t\t\t\t| Earned Amount >==> "<<sum<<endl;

cout<<"\t\t\t\t| "<<endl;

cout<<"\t\t\t\t--------------------------- ------------------------"<<endl;

}

cin.ignore();

cin.get();

}

read.close();

}

void display()

{

HANDLE h = GetStdHandle(STD\_OUTPUT\_HANDLE);

cout<<endl<<endl<<endl;

int i = 1;

bool check = false;

ifstream read;

read.open("vehicles.txt");

if(read.fail())

{

system("color 4");

cout<<"\t\t\t\tNO DATA IN FILE."<<endl<<endl;

cout<<"\t\t\tPress Enter to continue..............";

cin.ignore();

cin.get();

}

else

{

while( read>>c.vehicle\_no>>c.vehicle\_type>>c.owner\_name>>c.lastname>>c.cnic\_no>>c.cell\_no)

{

switch(i){

case 1: case 8: case 15: case 22: case 29: case 36: case 43: case 50:

SetConsoleTextAttribute(h,0x1 );

break;

case 2: case 9: case 16: case 23: case 30: case 37: case 44:

SetConsoleTextAttribute(h,0x2 );

break;

case 3: case 10: case 17: case 24: case 31: case 38: case 45:

SetConsoleTextAttribute(h,0x3 );

break;

case 4: case 11: case 18: case 25: case 32: case 39: case 46:

SetConsoleTextAttribute(h,0x4 );

break;

case 5: case 12: case 19: case 26: case 33: case 40: case 47:

SetConsoleTextAttribute(h,0x5 );

break;

case 6: case 13: case 20: case 27: case 34: case 41: case 48:

SetConsoleTextAttribute(h,0x6 );

break;

case 7: case 14: case 21: case 28: case 35: case 42: case 49:

SetConsoleTextAttribute(h,0x7 );

break;

}

cout<<"\t\t\t RECORD # "<<i<<" "<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t| Vehicle Number >==> "<<c.vehicle\_no<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t| Vehicle Type >==> "<<c.vehicle\_type<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

if(c.lastname=="NO\_lastname")

{

cout<<"\t\t\t| Owner Name >==> "<<c.owner\_name<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

}

else

{

cout<<"\t\t\t| Owner Name >==> "<<c.owner\_name<<' '<<c.lastname<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

}

cout<<"\t\t\t| CNIC Number >==> "<<c.cnic\_no<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl;

cout<<"\t\t\t| Contact No. >==> "<<c.cell\_no<<endl;

cout<<"\t\t\t---------------------------------------------------------"<<endl<<endl;

cout<<"\t<--------------------------------------------------------------------------------------->"<<endl<<endl;

check = true;

i++;

}

if(check==false)

{

system("color 4");

cout<<"\t\t\t\tVehicles Record Not Found.\n\n\t\t\tPress Enter Key.......";

}

cin.ignore();

cin.get();

}

read.close();

}

void record\_delete()

{

cout<<"\n\n\n";

char ch;

cout<<"\t\t\tTHIS PROCESS WILL DELETE YOUR ALL DATA AND RESTART THE PARKING SOFTWARE................"<<endl<<endl;

cout<<"\t\t\tPress 'y' to Continue....... OR Press 'n' to Cancel The Process........ >==> ";

cin>>ch;

while(ch!='y' && ch!='n')

{

system("color 4");

cout<<"\t\t\t\tERROR!.......\n\t\t\tPress 'y' to Continue....... OR Press 'n' to Cancel The Process........ >==> ";

cin>>ch;

}

if(ch=='y')

{

system("color 6");

remove ("earn.txt");

remove ("vehicles.txt");

cout<<endl<<endl<<endl;

cout<<"\t\t\tALL THE FILES AND DATA has been deleted SUCCESSFULLY.\n\n\t\t\tPress Enter Key.........";

}

else if(ch=='n')

{

system("color 2");

cout<<endl<<endl<<endl;

cout<<"\t\t\tTHE PROCESS has been CANCELLED.\n\n\t\t\tPress Enter Key..........";

}

cin.ignore();

cin.get();

}

void endup()

{

HANDLE h = GetStdHandle(STD\_OUTPUT\_HANDLE);

SetConsoleTextAttribute(h,FOREGROUND\_GREEN );

cout<<endl<<endl<<endl;

cout<<"\t\t\t \*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* \* \* \*\*\*\*\*\*\*"<<endl;

cout<<"\t\t\t \* \* \* \* \* \* \* \* \* \* \* \* \* "<<endl;

SetConsoleTextAttribute(h,0x6 );

cout<<"\t\t\t\* \* \* \* \* \* \* \* \* \*\*\*\*\*\* \* "<<endl;

cout<<"\t\t\t\* \* \* \* \* \* \* \*\*\*\*\*\*\* \* \*\*\*\*\*\*\*"<<endl;

cout<<"\t\t\t\* \* \* \* \* \* \* \* \* \* \* \* \* "<<endl;

SetConsoleTextAttribute(h,FOREGROUND\_RED );

cout<<"\t\t\t \* \* \* \* \* \* \* \* \* \* \* \* \* "<<endl;

cout<<"\t\t\t \*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\*\* \*\*\*\*\*\* \*\*\*\*\*\*\*"<<endl;

SetConsoleTextAttribute(h,0 );

cin.ignore();

cin.get();

}