DIS Police DB System Tech Manual

Contents

1. Purpose & Basic requirements

2. Database

3. Files and Directories

4. How it works

1. Purpose & Basic requirements

1. Purpose :

This system was designed to provide an end-to-end system that will allow police officers to record

and retrieve information about vehicles, people and traffic incidents.

Any officer who has an ID can login and use this system.

Also, there is an administrator who can manage accounts, add fines to any incidents or modify

offence types in accordance with relevant laws.

2. Database : Mysql

3. Web page files : PHP(with Jquery 3.5.1(included in script folder), awesomefont)

2. Database

1. Server name & Username / PW : psxsm27 / Crystal!41

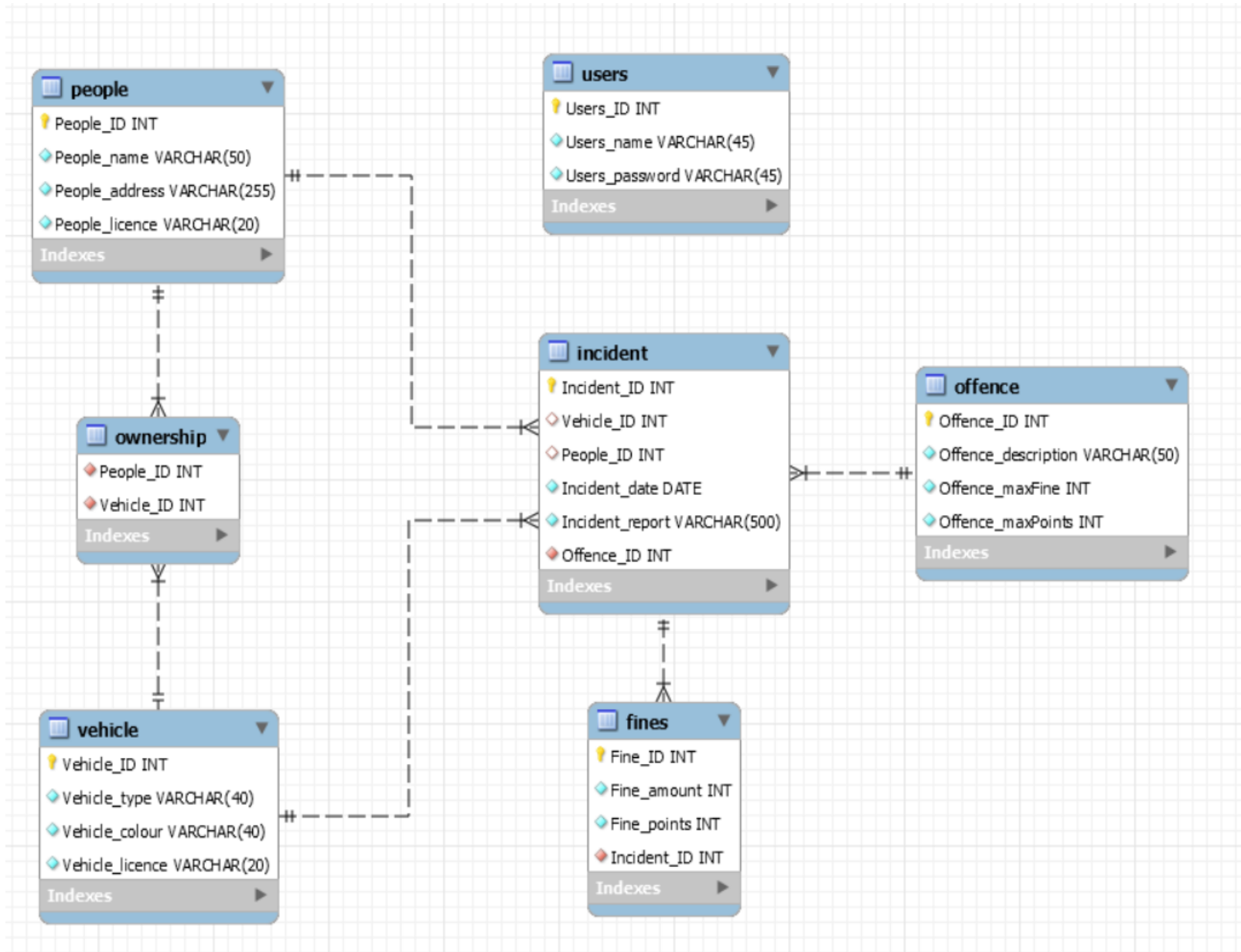2. Schema name : psxsm27

3. Mysql version : 6.3

2. Database – tables info (types and relationships on the next page)

1. People : (PK)People_ID, People_name, People_address, People_licence – Personal records

2. Vehicle : (PK)Vehicle_ID, Vehicle_type, Vehicle_colour, Vehicle_licence – Vehicle records

3. Ownership : (FK)People_ID, (FK)Vehicle_ID – Vehicle ownership

4. Offence : (PK)Offence_ID, Offence_description, Offence_maxFine, Offence_maxPoints – Offence types and penalties

5. Incident : (PK)Incident_ID, (FK)Vehicle_ID, (FK)People_ID, (FK)Offence_ID, Incident_date, Incident_report – Incident records

6. Fines : (PK)Fine_ID, (FK)Incident_ID, Fine_amount, Fine_points – Fine records

7. Users : (PK)Users_ID, Users_name, Users_password – DB Web user accounts

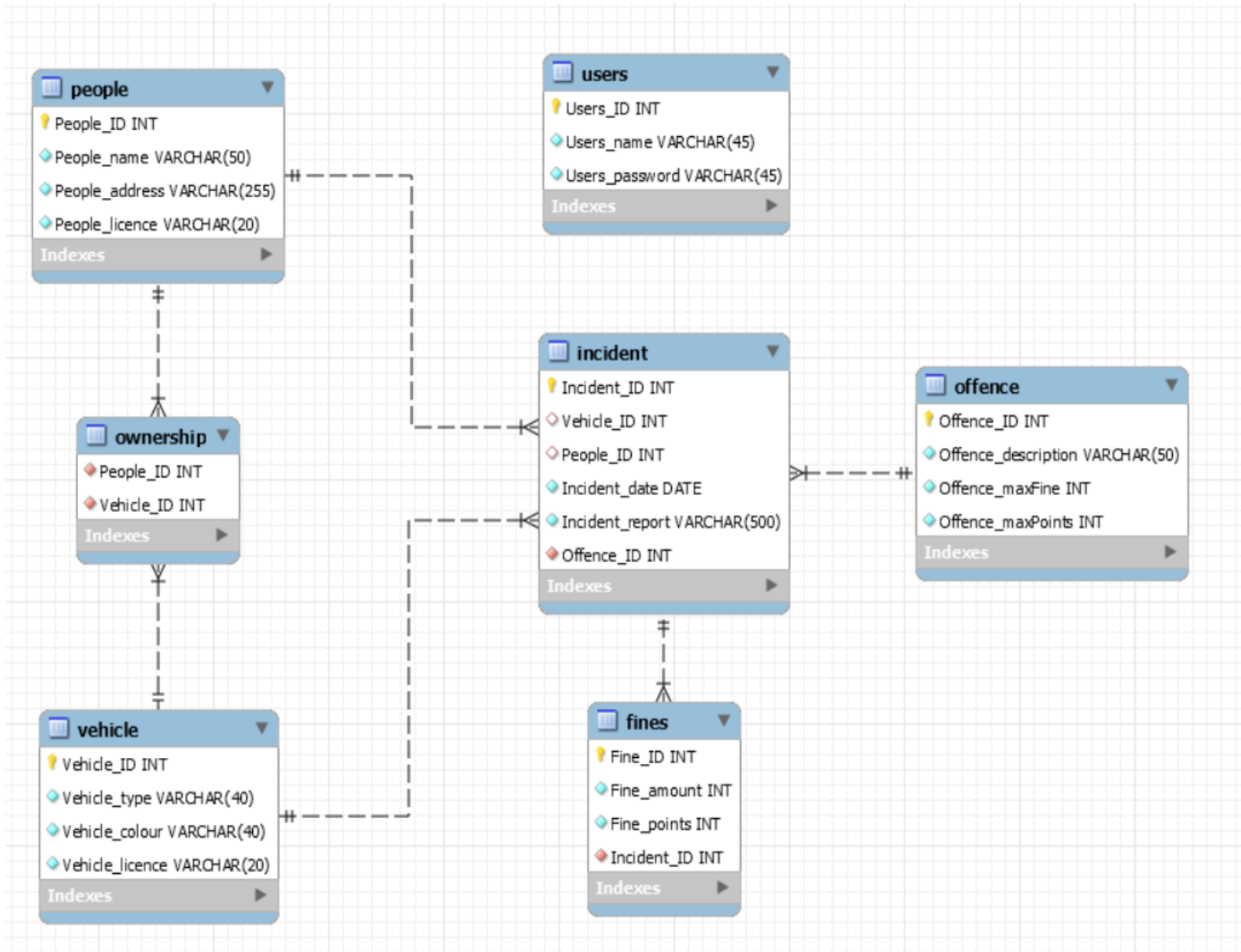- (PK)ID is auto-increment value in all tables.

- Tables connected to each other by FKs are on update & delete cascade,

  so if any change occurs on one side, it will be reflected on the other.

2. Database – structure and input types (\sql\ERD.mwb)

people
- 🔑 People_ID INT
- ◆ People_name VARCHAR(50)
- ◆ People_address VARCHAR(255)
- ◆ People_licence VARCHAR(20)
- Indexes ▶

users
- 🔑 Users_ID INT
- ◆ Users_name VARCHAR(45)
- ◆ Users_password VARCHAR(45)
- Indexes ▶

incident
- 🔑 Incident_ID INT
- ◇ Vehicle_ID INT
- ◇ People_ID INT
- ◇ Incident_date DATE
- ◇ Incident_report VARCHAR(500)
- ◆ Offence_ID INT
- Indexes ▶

offence
- 🔑 Offence_ID INT
- ◇ Offence_description VARCHAR(50)
- ◇ Offence_maxFine INT
- ◇ Offence_maxPoints INT
- Indexes ▶

ownership
- ◆ People_ID INT
- ◆ Vehicle_ID INT
- Indexes ▶

vehicle
- 🔑 Vehicle_ID INT
- ◇ Vehicle_type VARCHAR(40)
- ◇ Vehicle_colour VARCHAR(40)
- ◇ Vehicle_licence VARCHAR(20)
- Indexes ▶

fines
- 🔑 Fine_ID INT
- ◇ Fine_amount INT
- ◇ Fine_points INT
- ◆ Incident_ID INT
- Indexes ▶

1. People can own one or more vehicles

2. Ownership table reflects the ownership

3. For some vehicles, the owner might be unknown

4. There are some people who don't have any vehicle (It has not yet been identified or might actually be)

2. Database – structure and input types (\sql\ERD.mwb)

people
- 🔑 People_ID INT
- 🔹 People_name VARCHAR(50)
- 🔹 People_address VARCHAR(255)
- 🔹 People_licence VARCHAR(20)
- Indexes

users
- 🔑 Users_ID INT
- 🔹 Users_name VARCHAR(45)
- 🔹 Users_password VARCHAR(45)
- Indexes

ownership
- 🔹 People_ID INT
- 🔹 Vehicle_ID INT
- Indexes

incident
- 🔑 Incident_ID INT
- 🔹 Vehicle_ID INT
- 🔹 People_ID INT
- 🔹 Incident_date DATE
- 🔹 Incident_report VARCHAR(500)
- 🔹 Offence_ID INT
- Indexes

offence
- 🔑 Offence_ID INT
- 🔹 Offence_description VARCHAR(50)
- 🔹 Offence_maxFine INT
- 🔹 Offence_maxPoints INT
- Indexes

vehicle
- 🔑 Vehicle_ID INT
- 🔹 Vehicle_type VARCHAR(40)
- 🔹 Vehicle_colour VARCHAR(40)
- 🔹 Vehicle_licence VARCHAR(20)
- Indexes

fines
- 🔑 Fine_ID INT
- 🔹 Fine_amount INT
- 🔹 Fine_points INT
- 🔹 Incident_ID INT
- Indexes

5. An incident involves one person and one vehicle

6. The involved vehicle may not be in possession of the involved person

7. In some cases, involved vehicle or person might be unknown

8. An incident is related to an offence

9. An incident will be fined by admin after it is reported by an officer

10. Users include user accounts

2. Database – Queries (\sql\queries.txt)

- The query file is in the sql folder together with ERD file. (sql : queries.txt, ERD: ERD.mwb)

- Some initial records will be inserted by insert queries.

- It will drop the tables with the same name first, so be sure to backup all the important data first!

- Queries order : drop previous table -> create new table -> insert records -> specify primary keys

  -> set primary keys auto increment -> add foreign key relationships

3. Files and directories - Outline

1. Folders are categorised for each function

    (people, vehicle, incident -> report, offence, fines, manage account -> account)

2. Each category(folder) includes three functions (search/insert and edit/ delete)

3. **Search function file name = folder name**

4. Search function files are the first pages of each category

5. Each file name starts with the first letter of the folder name and underline (Report -> starts with r_)

6. Insert and edit files named as **"ins_edit"** or **"ins"** if there is no edit function (People -> p_ins_edit)

7. Delete files named as **"delete"** (Fines -> f_delete)

3. Files and directories - Outline

8. Logo on the upper left corner is in images folder

9. CSS file "styles.css" is in css folder

10. The CSS file also follows the naming rules of files on the previous page (5.)

11. Connection configure file (dbcon.php), log in/out file (login.php and logout.php), Home file (main.php), and change password file (change_password.php) is in the root folder

3. Files and directories – PHP files

root : login, logout, change_password, main, dbcon

account: account, a_insert, a_delete

fines: fines, f_ins_edit, f_delete

offence: offence, off_ins_edit, off_delete

people: people, p_ins_edit, p_delete

report: report, r_ins_edit, r_delete

vehicle: vehicle, v_ins_edit, v_delete

3. Files and directories – Other files

root: accounts.txt

css: [CSS] styles.css

images: logo.jpg

script: jquery-3.5.1.min.js

sql: ERD.mwb, queries.txt

4. How it works

- Each php file is organised in the following order

1. Session start, require dbcon.php, check the user is still logged-on

2. Initialize post variables and error messages

3. post variables and queries

4. Javascript functions

5. HTML (Search, Insert or Edit forms)

- For each input values, pattern, maxlength were used to prevent any user error
- For user convenience, input title, placeholder and oninvalid were used

4-1. How it works (login.php)

Login.php is the first page of this system.

If the user is already logged in, he will be redirected to the main page.

```php
// Check if the user is already logged in, if yes then redirect him to Main page
if (isset($_SESSION["loggedin"]) && $_SESSION["loggedin"] === true) {
    header("location: main.php");
    exit;
}
```
login.php

Login

Please fill in your ID and password to login.

Username

Password

Login

On the other hand, if someone tries to open other pages without logging in, he will be redirected to this page.

```php
// Check if the user is logged in, if not then redirect to login page
if (!isset($_SESSION["loggedin"]) || $_SESSION["loggedin"] !== true) {
    header("location: ..\login.php");
    exit;
}
```
← The other pages

4-1. How it works (login.php)

DIS Police DB System

Login

Please fill in your ID and password to login.

Username

Password

Login

```
"SELECT * FROM Users WHERE Users_name = '$Users_name'";
$correct_password = $row["Users_password"];

$Users_password == $correct_password
-> login and redirect to main.php
$_SESSION["loggedin"] = true;
$_SESSION["Users_name"] = $Users_name;

if (strcasecmp($Users_name, "haskins") == 0) {
    $_SESSION["isadmin"] = true;}
```
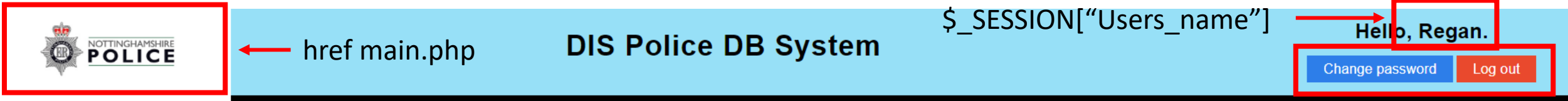
Username

```
If $Users_name or $Users_password is empty after
trimming, it will display error messages on the screen
```

Please enter username.

Password

Please enter your password.

4-2. How it works (main.php)

$_SESSION["Users_name"]

Hello, Regan.

Change password Log out

href main.php

DIS Police DB System

Home

People

Vehicle

Report

Offence

Fines

DB Guide

Side bar to navigate pages (href)
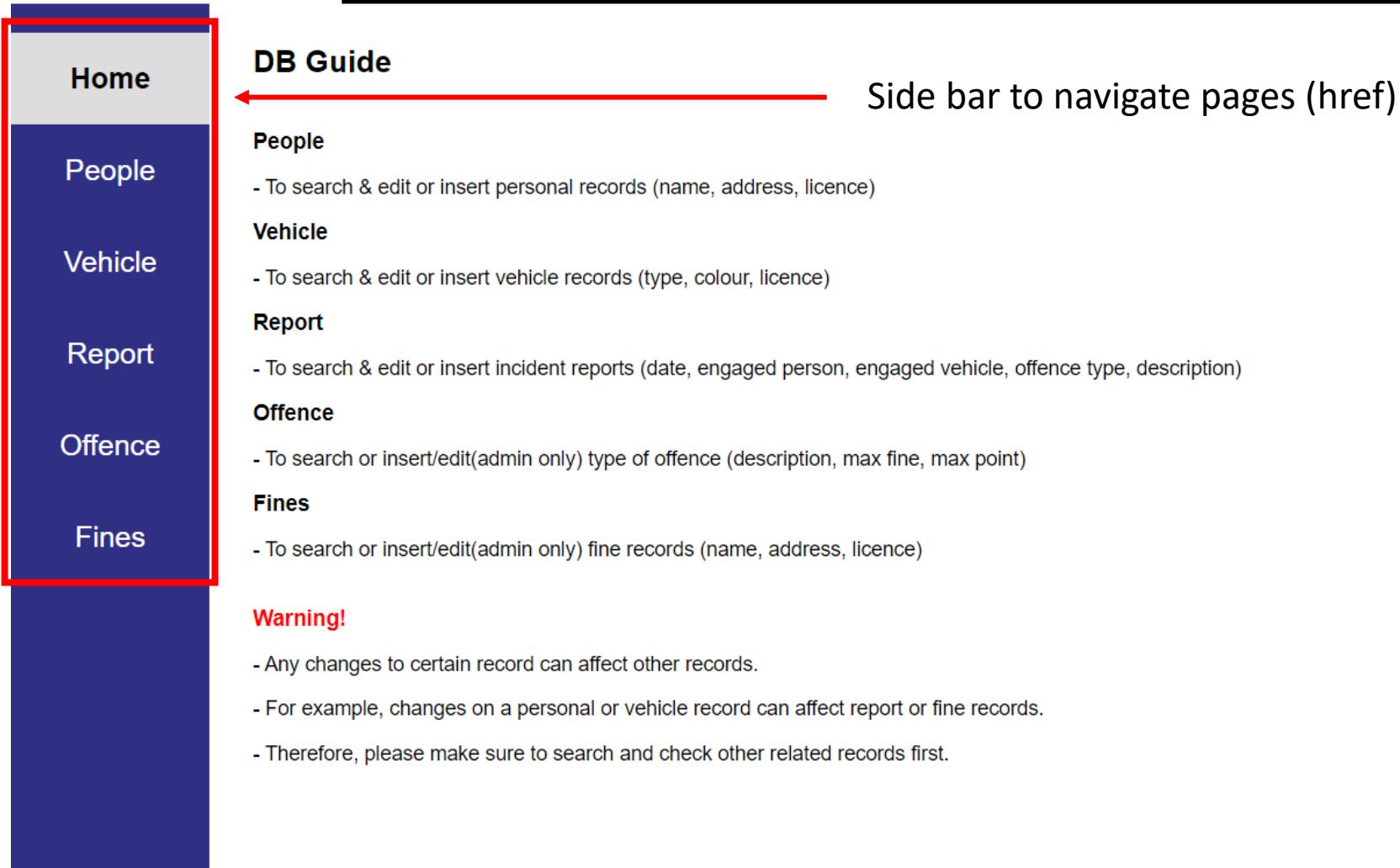
Change password button (href change_password.php), Log out button (href logout.php)

People

- To search & edit or insert personal records (name, address, licence)

Vehicle

- To search & edit or insert vehicle records (type, colour, licence)

Report

- To search & edit or insert incident reports (date, engaged person, engaged vehicle, offence type, description)

Offence

- To search or insert/edit(admin only) type of offence (description, max fine, max point)

Fines

- To search or insert/edit(admin only) fine records (name, address, licence)

Warning!

- Any changes to certain record can affect other records.

- For example, changes on a personal or vehicle record can affect report or fine records.

- Therefore, please make sure to search and check other related records first.

4-3. How it works (change_password.php)

DIS Police DB System

Hello, Regan.

Change password   Log out

Home

People

Vehicle

Report

Offence

Fines

Change Password

Please fill out this form to change your password.

New Password

Enter new password 6-10 characters without spaces

Confirm Password

Please input your password again to confirm

Submit   Cancel

```
$Users_name = $_SESSION["Users_name"];

If $new_password == $confirm_password
-> $sql = "UPDATE Users SET Users_password = '$new_password'
WHERE Users_name = '$Users_name'";
```

4-4. How it works (people.php)

DIS Police DB System

Hello, Regan.

Change password   Log out

Home
People
Vehicle
Report
Offence
Fines

Search or Update Personal Record

[Name ▼] [Enter search keyword or just press search button] [🔍] [new]

href p_ins_edit.php

$p_search

$p_category

Non-case-sensitive,
partial search available

```
$sql = "SELECT * FROM People WHERE " . $p_category . " LIKE \"%" . $p_search . "%\"
LIMIT $start_from, $per_page_record;";
```

pagination

Set $per_page_record as appropriate
The search form includes $page as a hidden input

```
if (isset($_POST["page"])) {$page = $_POST["page"];} else {$page = 1;}
$start_from = ($page - 1) * $per_page_record;
```

4-4. How it works (people.php)

DIS Police DB System

Hello, Regan.
Change password   Log out

Search or Update Personal Record

[Name ▾] [Enter search keyword or just press search button] [🔍] [new]

href p_delete.php   p_ins_edit.php

Name	Address	Licence		
James Smith	23 Barnsdale Road, Leicester	SMITH92LDOFJJ829	Delete	Edit
Jennifer Allen	46 Bramcote Drive, Nottingham	ALLEN88K23KLR9B3	Delete	Edit
John Myers	323 Derby Road, Nottingham	MYERS99JDW8REWL3	Delete	Edit
James Smith	26 Devonshire Avenue, Nottingham	SMITHR004JFS20TR	Delete	Edit
Terry Brown	7 Clarke Rd, Nottingham	BROWND3PJJ39DLFG	Delete	Edit
Mary Adams	38 Thurman St, Nottingham	ADAMSH9O3JRHH107	Delete	Edit
Neil Becker	6 Fairfax Close, Nottingham	BECKE88UPR840F9R	Delete	Edit
Angela Smith	30 Avenue Road, Grantham	SMITH222LE9FJ5DS	Delete	Edit
Morgan Wilson	4 Redwood Court, Bottesford	WILSON25EF0SA2FW	Delete	Edit
Frankie Watts	Cornerstone House, Glandwr	WATTS523WB1JE0SF	Delete	Edit

1 2 Next

Home
People
Vehicle
Report
Offence
Fines

Search result table

Button onclick = script function page_move();
It submits the form again with different page numbers

4-4. How it works (p_delete.php)
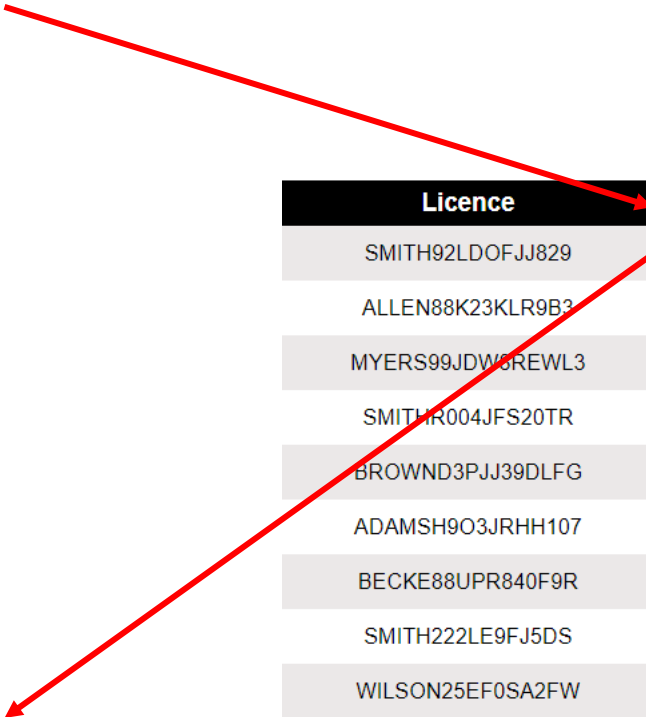
`people.php`
```
function confirmDelete(ID)
window.location.href = "p_delete.php?People_ID=".concat(ID)

GET method, each button contains each record's People_ID

<td><button onclick='confirmDelete(".$row["People_ID"].")'>
Delete</button></td>
```

`p_delete.php`
```
$People_ID=$_REQUEST['People_ID'];
$sql = "DELETE FROM People WHERE People_ID=".$People_ID.";";
```


Licence		
SMITH92LDOFJJ829	Delete	Edit
ALLEN88K23KLR9B3	Delete	Edit
MYERS99JDW8REWL3	Delete	Edit
SMITHR004JFS20TR	Delete	Edit
BROWND3PJJ39DLFG	Delete	Edit
ADAMSH9O3JRHH107	Delete	Edit
BECKE88UPR840F9R	Delete	Edit
SMITH222LE9FJ5DS	Delete	Edit
WILSON25EF0SA2FW	Delete	Edit
WATTS523WB1JE0SF	Delete	Edit

4-4. How it works (p_ins_edit.php) - Insert

DIS Police DB System

Hello, Regan.

Change password   Log out

- Home
- People
- Vehicle
- Report
- Offence
- Fines

Insert New Personal Record

Name

Enter name (letters and spaces)

Address

Enter address

Licence

Enter 16-digit licence (letters and numbers without spaces)

Submit   Cancel

```
$Status = 0; // insert(0), edit(1)
$People_name;
$People_address;
$People_licence;

// check if the People_licence is already in the database
$sql=
"SELECT * FROM People WHERE People_licence = '$People_licence'";

// If not,
$sql =
"INSERT INTO People (People_name,People_address,People_licence)
VALUES ('$People_name','$People_address','$People_licence')";
```

4-4. How it works (p_ins_edit.php) - Edit

people.php
```
function Edit(ID)
window.location.href = "p_ins_edit.php?People_ID=".concat(ID).
concat("&&Status=1")
```
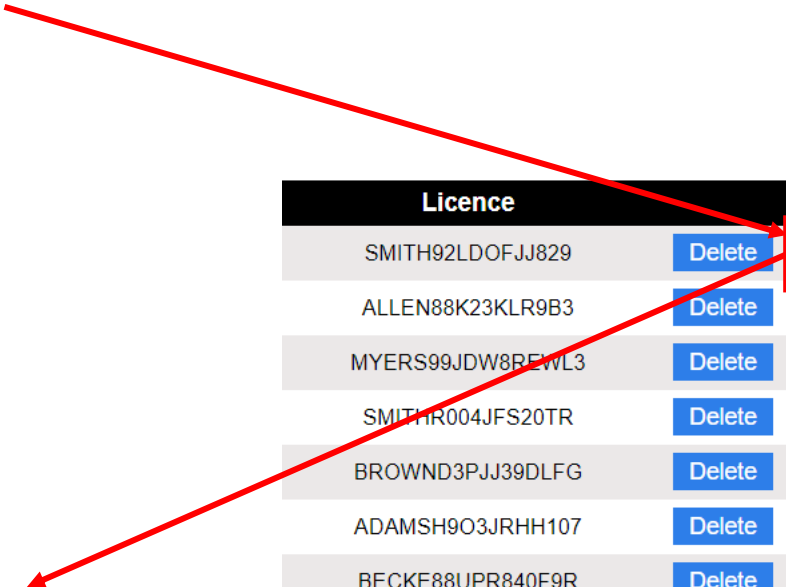
GET method, send selected ID and status=1

p_ins_edit.php
```
if (isset($_GET["People_ID"]) && $_GET["Status"] == 1)
$Edit_people_ID = $_GET["People_ID"];
$Status = $_GET["Status"];

$sql = "SELECT * FROM People WHERE People_ID = '$Edit_people_ID'";
$People_name = $row['People_name'];
$People_address = $row['People_address'];
$People_licence = $row['People_licence'];
```

Using the Select query, get previous input values to edit
and input them on the edit form

4-4. How it works (p_ins_edit.php) - Edit

DIS Police DB System

Hello, Regan.
Change password   Log out

Update Personal Record

Name

James Smith

Address

23 Barnsdale Road, Leicester

Licence

SMITH92LDOFJJ829

Update   Cancel

2. Store Post values edited
$People_name ,$People_address, $People_licence, $Edit_people_ID

3. Update table using query
$sql = "UPDATE People SET People_name = '$People_name',
People_address = '$People_address',
People_licence = '$People_licence'
WHERE People_ID = '$Edit_people_ID'";

1. At first, as mentioned on the previous page, there will be previous input values

DIS Police DB System

Hello, Regan.
Change password   Log out

Search or Update Personal Record

Name	Address	Licence		
James Smith	23 Barnsdale Road, Leicester	SMITH92LDOFJJ829	Delete	Edit
Jennifer Allen	46 Bramcote Drive, Nottingham	ALLEN88K23KLR9B3	Delete	Edit
John Myers	323 Derby Road, Nottingham	MYERS99JDW8REWL3	Delete	Edit
James Smith	26 Devonshire Avenue, Nottingham	SMITHR004JFS20TR	Delete	Edit
Terry Brown	7 Clarke Rd, Nottingham	BROWND3PJJ39DLFG	Delete	Edit
Mary Adams	38 Thurman St, Nottingham	ADAMSH9O3JRHH107	Delete	Edit
Neil Becker	6 Fairfax Close, Nottingham	BECKE88UPR840F9R	Delete	Edit
Angela Smith	30 Avenue Road, Grantham	SMITH222LE9FJ5DS	Delete	Edit
Morgan Wilson	4 Redwood Court, Bottesford	WILSON25EF0SA2FW	Delete	Edit
Frankie Watts	Cornerstone House, Glandwr	WATTS523WB1JE0SF	Delete	Edit

1   2   Next

4-5. How it works (vehicle.php)

Home

People

Vehicle

Report

Offence

Fines

Search or Update Vehicle Record

Vehicle licence ⌄ | Enter search keyword or just press search button | 🔍 | new

← href v_ins_edit.php

$V_search

$V_category

Case insensitive,
partial search available

To search owner's name and licence, but "left join" also to
include cases where the owner is unknown

```
$sql = "SELECT * FROM Vehicle NATURAL LEFT JOIN Ownership NATURAL LEFT JOIN People
WHERE " . $V_category . " LIKE \"%" . $V_search . "%\"
LIMIT $start_from, $per_page_record;";
```

pagination

Set $per_page_record as appropriate
The search form includes $page as a hidden input

```
if (isset($_POST["page"])) {$page = $_POST["page"];} else {$page = 1;}
$start_from = ($page - 1) * $per_page_record;
```

4-5. How it works (vehicle.php)

href v_delete.php   v_ins_edit.php

DIS Police DB System

Hello, Regan.

Change password   Log out

Home
People
Vehicle
Report
Offence
Fines

Search or Update Vehicle Record

Vehicle licence   Enter search keyword or just press search button   🔍 new

Type	Colour	Vehicle licence	Owner name	Owner licence		
Ford Fiesta	Blue	LB15AJL	John Myers	MYERS99JDW8REWL3	Delete	Edit
Ferrari 458	Red	MY64PRE	Angela Smith	SMITH222LE9FJ5DS	Delete	Edit
Vauxhall Astra	Silver	FD65WPQ	James Smith	SMITHR004JFS20TR	Delete	Edit
Honda Civic	Green	FJ17AUG	Jennifer Allen	ALLEN88K23KLR9B3	Delete	Edit
Toyota Prius	Silver	FP16KKE	James Smith	SMITHR004JFS20TR	Delete	Edit
Ford Mondeo	Black	FP66KLM			Delete	Edit
Ford Focus	White	DJ14SLE	Terry Brown	BROWND3PJJ39DLFG	Delete	Edit
Nissan Pulsar	Red	NY64KWD			Delete	Edit
Renault Scenic	Silver	BC16OEA	Neil Becker	BECKE88UPR840F9R	Delete	Edit
Ford Focus	Black	FS346FA	James Smith	SMITH92LDOFJJ829	Delete	Edit

1   2   Next

Search result table

Button onclick = script function page_move();
It submits the form again with different page numbers

4-4. How it works (v_delete.php)
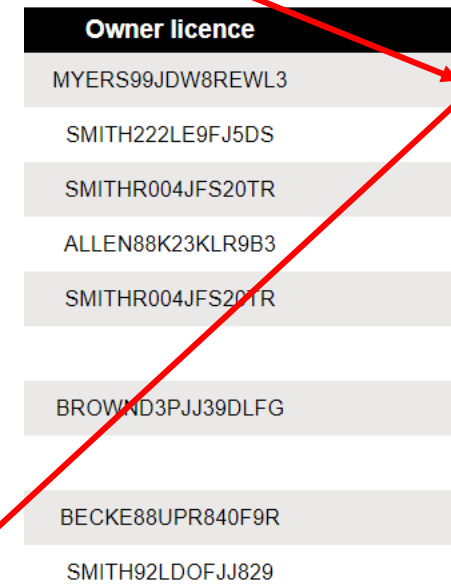
`vehicle.php`
```
function confirmDelete(ID)
window.location.href = "v_delete.php?Vehicle_ID=".concat(ID)

GET method, each button contains each record's Vehicle_ID

<td><button onclick='confirmDelete(".$row["Vehicle_ID"].")'>
Delete</button></td>
```

`v_delete.php`
```
$Vehicle_ID=$_REQUEST['Vehicle_ID'];
$sql = "DELETE FROM Vehicle WHERE Vehicle_ID=".$Vehicle_ID.";";
```

Owner licence		
MYERS99JDW8REWL3	Delete	Edit
SMITH222LE9FJ5DS	Delete	Edit
SMITHR004JFS20TR	Delete	Edit
ALLEN88K23KLR9B3	Delete	Edit
SMITHR004JFS20TR	Delete	Edit
	Delete	Edit
BROWND3PJJ39DLFG	Delete	Edit
	Delete	Edit
BECKE88UPR840F9R	Delete	Edit
SMITH92LDOFJJ829	Delete	Edit

4-5. How it works (v_ins_edit.php) - Insert

DIS Police DB System

Hello, Regan.

Change password   Log out

Home

People

Vehicle

Report

Offence

Fines

Insert New Vehicle Record

1. Input vehicle info

Type

Enter type

Colour

Enter colour without special characters

Vehicle licence

Enter 7-digit vehicle licence (letters and numbers)

2. Choose owner status

○ Person already in the database

○ Person not in the database

○ Unknown

Onclick Javascript
contentsview();
It shows the appropriate form for each $P_status

$P_status =
$_POST['p_radio_btn'];
value :
"existing_owner" or
"new_owner" or
"unknown"

$Vehicle_type;
$Vehicle_colour;
$Vehicle_licence;

Submit   Cancel

$Ex_p_licence, if the owner selected on 3., it will be automatically filled out.
Not used "readonly" attribute to make it "required", use preventDefault();
$(".readonly").keydown(function(e) {e.preventDefault();});

Insert New Vehicle Record

The owner search form works in the same way as people search

contentsview();

Home	
People	
Vehicle	
Report	
Offence	
Fines	

1. Input vehicle info

Type

BMW 320d

Colour

White

Vehicle licence

CEF24XV

2. Choose owner status

Selected Owner Licence

SMITH92LDOFJJ829

⦿ Person already in the database

○ Person not in the database

○ Unknown

$P_status = "existing_owner"

3. Search & Select existing owner

| Name ⌄ | Enter search keyword or just press search | 🔍 |

Name	Address	Licence	Select
James Smith	23 Barnsdale Road, Leicester	SMITH92LDOFJJ829	⦿
Jennifer Allen	46 Bramcote Drive, Nottingham	ALLEN88K23KLR9B3	○
John Myers	323 Derby Road, Nottingham	MYERS99JDW8REWL3	○
James Smith	26 Devonshire Avenue, Nottingham	SMITHR004JFS20TR	○
Terry Brown	7 Clarke Rd, Nottingham	BROWND3PJJ39DLFG	○

1 2 3 Next

$Vehicle_type;
$Vehicle_colour;
$Vehicle_licence;

function Select(Selected_p_ID, Selected_p_licence)
$Ex_people_ID = Selected_p_ID;
$Ex_p_licence = Selected_p_licence;

Submit Cancel

Insert New Vehicle Record

Home

People

Vehicle

Report

Offence

Fines

1. Input vehicle info

Type

BMW 320d

Colour

White

Vehicle licence

CEF24XV

Submit Cancel

$Vehicle_type;
$Vehicle_colour;
$Vehicle_licence;

$Ex_p_licence

contentsview();

2. Choose owner status

Selected Owner Licence

SMITH92LDOFJJ829

🔘 Person already in the database

⚪ Person not in the database

⚪ Unknown

$P_status = "existing_owner"

3. Search & Select existing owner

Name ▾ Enter search keyword or just press search 🔍

Name	Address	Licence	Select
James Smith	23 Barnsdale Road, Leicester	SMITH92LDOFJJ829	🔘
Jennifer Allen	4...	Select(); $Ex_people_ID; K23KLR9B3	⚪
John Myers	323 Derby Road, Nottingham	MYERS99JDW8REWL3	⚪
James Smith	26 Devonshire Avenue, Nottingham	SMITHR004JFS20TR	⚪
Terry Brown	7 Clarke Rd, Nottingham	BROWND3PJJ39DLFG	⚪

1 2 3 Next

This search form onSubmit="SaveInput();"
It temporarily saves all input values in
sessionStorage when pressing the search button.

```php
// Check if the same vehicle licence number is already in the database
$Select_query = "SELECT * FROM Vehicle WHERE Vehicle_licence = '$Vehicle_licence'";

// If not, use transaction to prevent any situation where only part of them executed.
if ($P_status == "existing_owner")

 Try { mysqli_autocommit($conn, false);

  $sql1 = "INSERT INTO Vehicle (Vehicle_type,Vehicle_colour,Vehicle_licence) VALUES
    ('$Vehicle_type','$Vehicle_colour','$Vehicle_licence');";

  $Vehicle_ID = mysqli_insert_id($conn); // Get the Vehicle_ID inserted by $sql1
  $sql2 = "INSERT INTO Ownership VALUES ('$Ex_people_ID', '$Vehicle_ID');";

  mysqli_commit($conn);

 } Catch () {…}

// So, there will be both new vehicle record and new ownership record.
```

4-5. How it works (v_ins_edit.php) – Insert [New owner]

Insert New Vehicle Record

$P_status = "new_owner"

$People_name; $People_address; $People_licence;

contentsview();

1. Input vehicle info

Type

BMW 320d

Colour

White

Vehicle licence

CEF24XV

$Vehicle_type;
$Vehicle_colour;
$Vehicle_licence;

2. Choose owner status

○ Person already in the database

● Person not in the database

○ Unknown

3. Input info of new owner

Name

Enter name (letters and spaces)

Address

Enter address

Licence

Enter 16-digit licence (letters and numbers without spaces)

Home

People

Vehicle

Report

Offence

Fines

Submit Cancel

```
if ($P_status == "new_owner")

// Check if the personal licence number is already in the database
$Select_query = "SELECT * FROM People WHERE People_licence = '$People_licence'";

// If not, transaction to prevent any situation where only part of these queries executed.
 Try { mysqli_autocommit($conn, false);

   // Insert into People
   $sql1 = "INSERT INTO People (People_name,People_address,People_licence)
         VALUES ('$People_name','$People_address','$People_licence')";
   $People_ID = mysqli_insert_id($conn); // Get inserted people_ID
   // Insert into Vehicle
   $sql2 = "INSERT INTO Vehicle (Vehicle_type,Vehicle_colour,Vehicle_licence)
         VALUES ('$Vehicle_type','$Vehicle_colour','$Vehicle_licence');";
   $Vehicle_ID = mysqli_insert_id($conn); // Get inserted Vehicle_ID
   // Insert into Ownership
   $sql3 = "INSERT INTO Ownership VALUES ('$People_ID', '$Vehicle_ID');";

   mysqli_commit($conn);

 } Catch () {…}
// So, there will be new vehicle record, people record, and ownership record.
```

4-5. How it works (v_ins_edit.php) – Insert [Owner unknown]

Nottinghamshire Police — DIS Police DB System

Hello, Regan.
Change password | Log out

Home | People | Vehicle | Report | Offence | Fines

Insert New Vehicle Record

`contentsview();`

1. Input vehicle info

Type
`BMW 320d`

Colour
`White`

Vehicle licence
`CEF24XV`

2. Choose owner status

○ Person already in the database
○ Person not in the database
◉ Unknown

`$P_status` = "unknown"

`$Vehicle_type;`
`$Vehicle_colour;`
`$Vehicle_licence;`

`// Insert into Vehicle`
```
$sql = "INSERT INTO Vehicle (Vehicle_type,Vehicle_colour,Vehicle_licence)
        VALUES ('$Vehicle_type','$Vehicle_colour','$Vehicle_licence');";
```

`// Only a new vehicle record will be inserted`

Submit | Cancel

4-5. How it works (v_ins_edit.php) - Edit
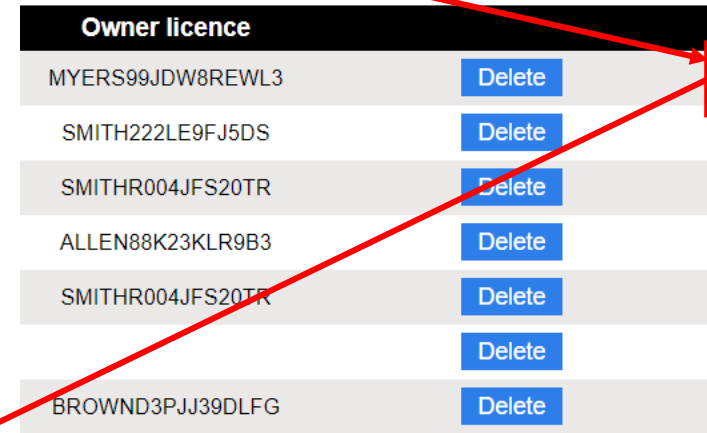
```
Vehicle.php
function Edit(ID)
window.location.href = "v_ins_edit.php?Vehicle_ID=".concat(ID).
concat("&&Status=1")

GET method, send selected ID and status=1


v_ins_edit.php
if (isset($_GET["Vehicle_ID"]) && $_GET["Status"] == 1)
  // get the chosen vehicle ID & status,
  // and then set up edit form with previous values
  $Edit_vehicle_ID = $_GET["Vehicle_ID"];
  $Status = $_GET["Status"];
  $Sql = "SELECT * FROM Vehicle NATURAL LEFT JOIN Ownership
   NATURAL LEFT JOIN People WHERE Vehicle_ID = '$Edit_vehicle_ID';";
  $Vehicle_type = $row['Vehicle_type'];
  $Vehicle_colour = $row['Vehicle_colour'];
  $Vehicle_licence = $row['Vehicle_licence'];
  $Ex_people_ID = $row['People_ID'];


  // set the owner status based on the previous value
  if ($Ex_people_ID == "") -> $P_status = "unknown";
  else -> $P_status = "existing_owner"; $Ex_p_licence = $row['People_licence'];
```

4-5. How it works (v_ins_edit.php) - Edit

The edit form mechanism is the same as the people page.
There will be previous values with radio buttons selected, and users can edit them.

```php
// Check if the updated licence number is already in the database and it is not the previous one
$Select_query = "SELECT * FROM Vehicle WHERE Vehicle_licence = '$Vehicle_licence'";
$row = mysqli_fetch_assoc($Select_result);
$Vehicle_ID = $row['Vehicle_ID'];
if ($Edit_vehicle_ID != $Vehicle_ID)

// If not, update
$Status == 1 and existing_owner
  // Use transaction to prevent any situation where only part of them updated
  Try { mysqli_autocommit($conn, false);

    // Update vehicle record
    $sql1 = "UPDATE Vehicle SET Vehicle_type = '$Vehicle_type', Vehicle_colour = '$Vehicle_colour',
          Vehicle_licence = '$Vehicle_licence' WHERE Vehicle_ID = '$Edit_vehicle_ID'";
    // Check if the vehicle was owned by someone else
      // If so, update the ownership record
      $sql2 = "UPDATE Ownership SET People_ID = '$Ex_people_ID' WHERE Vehicle_ID = '$Edit_vehicle_ID'";
      // If not, insert new ownership record
      $sql2 = "INSERT INTO Ownership VALUES ('$Ex_people_ID', '$Edit_vehicle_ID');";

  mysqli_commit($conn);

} Catch () {…}
```

```
$Status == 1 and new_owner
    // Use transaction to prevent any situation where only part of them updated
Try { mysqli_autocommit($conn, false);

    // check if the People_licence is already in the database
    $Select_query = "SELECT * FROM People WHERE People_licence = '$People_licence'";
    // If not, insert into people
    $sql1 = "INSERT INTO People (People_name,People_address,People_licence)
            VALUES ('$People_name','$People_address','$People_licence')";
    $People_ID = mysqli_insert_id($conn);

    // update vehicle
     $sql2 = "UPDATE Vehicle SET Vehicle_type = '$Vehicle_type', Vehicle_colour = '$Vehicle_colour',
            Vehicle_licence = '$Vehicle_licence' WHERE Vehicle_ID = '$Edit_vehicle_ID'";

    // Check if the vehicle was owned by someone else
     $Select_query = "SELECT * FROM Ownership WHERE Vehicle_ID = '$Edit_vehicle_ID'";
      // if so, update the ownership
     $sql3 = "UPDATE Ownership SET People_ID = '$People_ID' WHERE Vehicle_ID = '$Edit_vehicle_ID'";
      // if not, insert new ownership record
     $sql3 = "INSERT INTO Ownership VALUES ('$People_ID', '$Edit_vehicle_ID');";

mysqli_commit($conn); } Catch () {…}
```

4-5. How it works (v_ins_edit.php) - Edit

```
$Status == 1 and unknown
   // Use transaction to prevent any situation where only part of them updated
 Try { mysqli_autocommit($conn, false);

   // Update vehicle record
 $sql1 = "UPDATE Vehicle SET Vehicle_type = '$Vehicle_type', Vehicle_colour = '$Vehicle_colour',
        Vehicle_licence = '$Vehicle_licence' WHERE Vehicle_ID = '$Edit_vehicle_ID';";

   // Delete the previous ownership record of the vehicle
 $sql2 = "DELETE FROM Ownership WHERE Vehicle_ID = '$Edit_vehicle_ID';";

 mysqli_commit($conn);

 } Catch () {…}
```

4-6. How it works (report.php)

DIS Police DB System

Hello, Regan.
Change password   Log out

Home
People
Vehicle
Report
Offence
Fines

Search or Update Incident Record

Offence type - All   ← $R_category_2

From mm/dd/yyyy To mm/dd/yyyy   ← $From, $To

Incident ID   Enter search keyword or just press search button Q new   ← href r_ins_edit.php

r_ins_edit.php

href r_delete.php

Incident ID	Date	Personal name	Personal licence	Vehicle licence	Offence type	Report	Vehicle type	Vehicle colour		
1	2017-12-01	James Smith	SMITHR004JFS20TR	FP16KKE	Speeding	40mph in a 30 limit	Toyota Prius	Silver	Delete	Edit
2	2017-11-01	Angela Smith	SMITH222LE9FJ5DS	MY64PRE	Illegal parking	Double parked	Ferrari 458	Red	Delete	Edit
3	2017-09-17	James Smith	SMITHR004JFS20TR	FD65WPQ	Speeding	110mph on motorway	Vauxhall Astra	Silver	Delete	Edit
4	2017-08-22	Jennifer Allen	ALLEN88K23KLR9B3	FJ17AUG	Cycling on pavement	Failure to stop at a red light - travelling 25mph	Honda Civic	Green	Delete	Edit
5	2017-10-17	James Smith	SMITHR004JFS20TR	FD65WPQ	Seat belt offence	Not wearing a seatbelt on the M1	Vauxhall Astra	Silver	Delete	Edit

$R_category $R_search

1

Search result table

Button onclick = script function page_move();
It submits the form again with different page numbers

4-6. How it works (report.php)

```
// If Offence_type All
// Natural left join to search involved person and vehicle info together
if ($R_category_2 == 'All')
$sql = "SELECT * FROM Incident NATURAL LEFT JOIN Vehicle NATURAL LEFT JOIN People
    NATURAL LEFT JOIN Offence   // LEFT JOIN to include offence type, involved person and vehicle
    WHERE " . $R_category . " LIKE \"%" . $R_search . "%\" // for non-case-sensitive and partial search
    AND Incident_date BETWEEN '$From' AND '$To' ORDER BY Incident_ID ASC // From and To date
    LIMIT $start_from, $per_page_record;"; // Pagination

// Else if certain offence_type is selected
// Natural left join to search involved person and vehicle info together
$R_sql_1 = "SELECT * FROM Incident NATURAL LEFT JOIN Vehicle NATURAL LEFT JOIN People
    NATURAL LEFT JOIN Offence
    WHERE " . $R_category . " LIKE \"%" . $R_search . "%\"
    AND Incident_date BETWEEN '$From' AND '$To'
    AND Offence_description = '$R_category_2' ORDER BY Incident_ID ASC // Offence_type
    LIMIT $start_from, $per_page_record;";

// if To date is not specified, then it will be set today's date
if ($_POST['to'] != '' && $_POST['to'] != null) {
    $To = $_POST['to'];
    } else {
    $To = date("Y-m-d");
    }
```

4-6. How it works (r_delete.php)
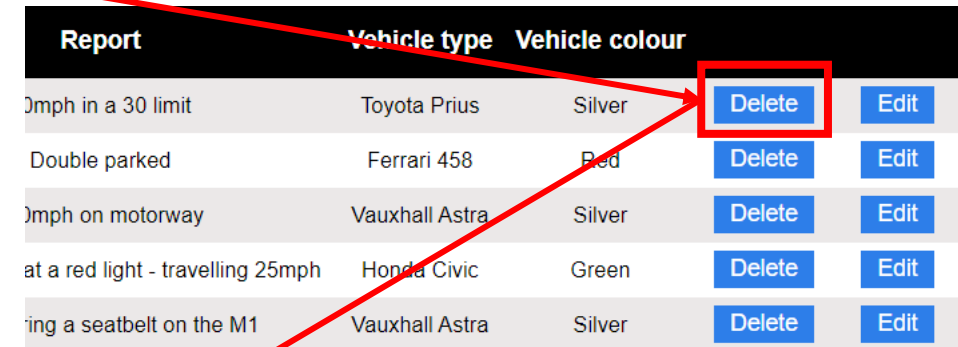
`report.php`
```
function confirmDelete(ID)
window.location.href = "r_delete.php?Incident_ID=".concat(ID)

GET method, each button contains each record's Incident_ID

<td><button onclick='confirmDelete(".$row["Incident_ID"]."')'>
Delete</button></td>
```

`r_delete.php`
```
$Incident_ID=$_REQUEST['Incident_ID'];
$sql = "DELETE FROM Incident WHERE Incident_ID=".$Incident_ID.";";
```

Report	Vehicle type	Vehicle colour		
0mph in a 30 limit	Toyota Prius	Silver	Delete	Edit
Double parked	Ferrari 458	Red	Delete	Edit
0mph on motorway	Vauxhall Astra	Silver	Delete	Edit
at a red light - travelling 25mph	Honda Civic	Green	Delete	Edit
ring a seatbelt on the M1	Vauxhall Astra	Silver	Delete	Edit

4-6. How it works (r_ins_edit.php) - Insert

$Incident_date, $Incident_report, $Offence_description

Home

People

Vehicle

Report

Offence

Fines

Insert New Incident Record

1. Input basic info

Incident date
mm/dd/yyyy

Incident description
Enter description

Offence type
Speeding

2. Person involved   Selected person Licence: SMITH92LDOFJJ829

○ Person already in the database ○ Person not in the database ○ Unknown Person

contentsView();

3. Vehicle involved

○ Vehicle already in the database ● Vehicle not in the database ○ Unknown Vehicle

contentsView();

2.2. Search & Select existing person

select();

3.2. Input info of new vehicle

Name | Enter search keyword or just press search | 🔍

Name	Address	Personal licence	Select
James Smith	23 Barnsdale Road, Leicester	SMITH92LDOFJJ829	●
Jennifer Allen	46 Bramcote Drive, Nottingham	ALLEN88K23KLR9B3	○
John Myers	323 Derby Road, Nottingham	MYERS99JDW8REWL3	○
James Smith	26 Devonshire Avenue, Nottingham	SMITHR004JFS20TR	○
Terry Brown	7 Clarke Rd, Nottingham	BROWND3PJJ39DLFG	○

1 2 3 Next

Type
Enter Type

Colour
Enter colour without special characters

Vehicle Licence
Enter 7-digit vehicle licence (letters and numbers)

Submit Cancel

This page follows the same mechanism as the vehicle page

```php
// existing person
  // existing vehicle
  // insert into incident with chosen people ID and vehicle ID
  $sql = "INSERT INTO Incident
        (Vehicle_ID, People_ID, Incident_date, Incident_report, Offence_ID) VALUES
        ('$Ex_vehicle_ID', '$Ex_people_ID', '$Incident_date', '$Incident_report', '$Offence_ID');";

  // new vehicle
  // Check if the same vehicle licence number is already in the database
      $Select_query = "SELECT * FROM Vehicle WHERE Vehicle_licence = '$Vehicle_licence'";

  // If not, use transaction to insert data into tables
  try { mysqli_autocommit($conn, false);
    // Insert into Vehicle
    $V_ins_query = "INSERT INTO Vehicle (Vehicle_type,Vehicle_colour,Vehicle_licence) VALUES
        ('$Vehicle_type','$Vehicle_colour','$Vehicle_licence');";
    // Get the inserted vehicle ID
    $Vehicle_ID = mysqli_insert_id($conn);
    // Insert into Incident
    $sql = "INSERT INTO Incident (Vehicle_ID, People_ID, Incident_date, Incident_report, Offence_ID)
        VALUES ('$Vehicle_ID', '$Ex_people_ID', '$Incident_date', '$Incident_report', '$Offence_ID');";

mysqli_commit($conn);

} Catch () {…}
```

4-6. How it works (r_ins_edit.php) - Insert

```php
// existing person
  // unknown vehicle
  // insert into incident with chosen people ID
  $sql = "INSERT INTO Incident (People_ID, Incident_date, Incident_report, Offence_ID) VALUES
        ('$Ex_people_ID', '$Incident_date', '$Incident_report', '$Offence_ID');";

// new person
  // existing vehicle
  // check if the People_licence is already in the database
  $Select_query = "SELECT * FROM People WHERE People_licence = '$People_licence'";

  // If not, use transaction to insert data into tables
  try { mysqli_autocommit($conn, false);
    // Insert into People
    $P_ins_query = "INSERT INTO People (People_name,People_address,People_licence)
                    VALUES ('$People_name','$People_address','$People_licence');";
    // Get the inserted People ID
    $People_ID = mysqli_insert_id($conn);

    // Insert into Incident
    $sql = "INSERT INTO Incident (Vehicle_ID, People_ID, Incident_date, Incident_report, Offence_ID)
        VALUES ('$Ex_vehicle_ID', '$People_ID', '$Incident_date', '$Incident_report', '$Offence_ID');";

  mysqli_commit($conn); } Catch () {…}
```

```php
// new person
  // new vehicle
  // Check if the People_licence is already in the database
  $Select_query = "SELECT * FROM People WHERE People_licence = '$People_licence'";

  // Check if the same vehicle licence number is already in the database
  $Select_query = "SELECT * FROM Vehicle WHERE Vehicle_licence = '$Vehicle_licence'";

  // If not, use transaction to insert data into tables
  try { mysqli_autocommit($conn, false);
    // Insert into People
    $P_ins_query = "INSERT INTO People (People_name,People_address,People_licence)
                    VALUES ('$People_name','$People_address','$People_licence')";
    // Get the inserted People ID
    $People_ID = mysqli_insert_id($conn);
    // Insert into Vehicle
    $V_ins_query = "INSERT INTO Vehicle (Vehicle_type,Vehicle_colour,Vehicle_licence) VALUES
                    ('$Vehicle_type','$Vehicle_colour','$Vehicle_licence');";
    // Get the inserted Vehicle ID
    $Vehicle_ID = mysqli_insert_id($conn);

    // Insert into Incident
    $sql = "INSERT INTO Incident (Vehicle_ID, People_ID, Incident_date, Incident_report, Offence_ID)
            VALUES ('$Vehicle_ID', '$People_ID', '$Incident_date', '$Incident_report', '$Offence_ID');";

  mysqli_commit($conn); } Catch () {…}
```

4-6. How it works (r_ins_edit.php) - Insert

```php
// new person
  // unknown vehicle
  // check if the People_licence is already in the database
  $Select_query = "SELECT * FROM People WHERE People_licence = '$People_licence'";

  // If not, use transaction to insert data into tables
  try { mysqli_autocommit($conn, false);

      // Insert into People
      $P_ins_query = "INSERT INTO People (People_name,People_address,People_licence)
                      VALUES ('$People_name','$People_address','$People_licence')";
      // Get the inserted People ID
      $People_ID = mysqli_insert_id($conn);


      // Insert into Incident
      $sql = "INSERT INTO Incident (People_ID, Incident_date, Incident_report, Offence_ID) VALUES
            ('$People_ID', '$Incident_date', '$Incident_report', '$Offence_ID');";

  mysqli_commit($conn); } Catch () {…}
```

4-6. How it works (r_ins_edit.php) - Insert

```php
// unknown person
  // existing vehicle
    // Insert into Incident
    $sql = "INSERT INTO Incident (Vehicle_ID, Incident_date, Incident_report, Offence_ID) VALUES
        ('$Ex_vehicle_ID', '$Incident_date', '$Incident_report', '$Offence_ID');";

  // new vehicle
    // Check if the same vehicle licence number is already in the database
    $Select_query = "SELECT * FROM Vehicle WHERE Vehicle_licence = '$Vehicle_licence'";

    // If not, use transaction to insert data into tables
    try { mysqli_autocommit($conn, false);

        // Insert into Vehicle
        $V_ins_query = "INSERT INTO Vehicle (Vehicle_type,Vehicle_colour,Vehicle_licence) VALUES
                        ('$Vehicle_type','$Vehicle_colour','$Vehicle_licence');";
        // Get the inserted Vehicle ID
        $Vehicle_ID = mysqli_insert_id($conn);

        // Insert into Incident
        $sql = "INSERT INTO Incident (Vehicle_ID, Incident_date, Incident_report, Offence_ID) VALUES
            ('$Vehicle_ID', '$Incident_date', '$Incident_report', '$Offence_ID');";

    mysqli_commit($conn); } Catch () {…}
```

```
// unknown person
   // unknown vehicle
      // Insert into Incident
   $sql = "INSERT INTO Incident (Incident_date, Incident_report, Offence_ID) VALUES
         ('$Incident_date', '$Incident_report', '$Offence_ID');";
```

```
Report.php
function Edit(ID)
window.location.href = "r_ins_edit.php?Incident_ID=".concat(ID).
concat("&&Status=1")

GET method, send selected ID and status=1
```
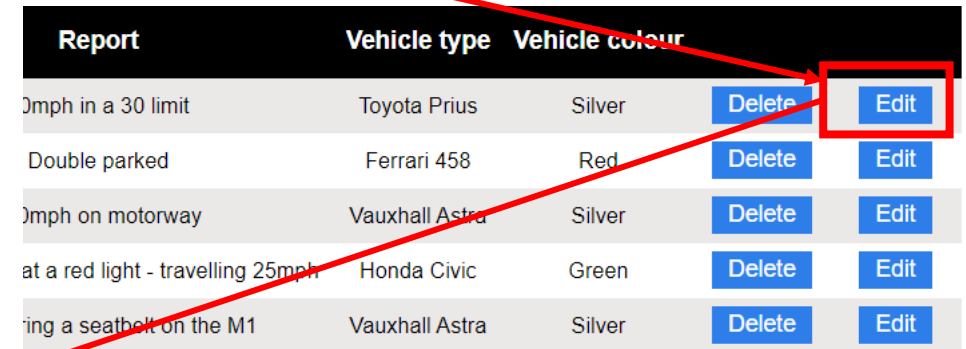


```
r_ins_edit.php
if (isset($_GET[" Incident_ID"]) && $_GET["Status"] == 1)

    // Get chosen Incident ID and status
    $Edit_incident_ID = $_GET["Incident_ID"];
    $Status = $_GET["Status"];
```

4-6. How it works (r_ins_edit.php) - Edit

```php
r_ins_edit.php
  // find other values using the Incident ID
  $Select_query = "SELECT * FROM Incident NATURAL LEFT JOIN Vehicle NATURAL LEFT JOIN People
    NATURAL LEFT JOIN Offence WHERE Incident_ID = '$Edit_incident_ID';";

    // get previous vehicle status
    $Ex_vehicle_ID = $row['Vehicle_ID'];
    if ($Ex_vehicle_ID == "") { $V_status = "unknown_vehicle";
      } else {
        $V_status = "existing_vehicle";
        $Ex_v_licence = $row['Vehicle_licence'];
    }
    // get previous people status
    $Ex_people_ID = $row['People_ID'];
    if ($Ex_people_ID == "") {
        $P_status = "unknown_person";
      } else {
        $P_status = "existing_person";
        $Ex_p_licence = $row['People_licence'];
    }
    // get other previous information
    $Incident_date = $row['Incident_date'];
    $Incident_report = $row['Incident_report'];
    $Offence_ID = $row['Offence_ID'];
    $Offence_description = $row['Offence_description'];
```

The edit form mechanism is the same as the people page.
There will be previous values with radio buttons selected, and users can edit them.
(All queries the same as insert have been omitted.)

```php
// existing person
  // existing vehicle
  // Update incident with chosen people ID and vehicle ID
  $sql = "UPDATE Incident SET Vehicle_ID = '$Ex_vehicle_ID', People_ID = '$Ex_people_ID',
          Incident_date = '$Incident_date', Incident_report = '$Incident_report',
          Offence_ID = '$Offence_ID' WHERE Incident_ID = '$Edit_incident_ID';";

  // new vehicle
// Check if the same vehicle licence number is already in the database
// If not, use transaction to insert data into tables
try { mysqli_autocommit($conn, false);
  // Insert into Vehicle
  // Get the inserted vehicle ID
  // Update Incident
  $sql = "UPDATE Incident SET Vehicle_ID = '$Vehicle_ID', People_ID = '$Ex_people_ID',
          Incident_date = '$Incident_date', Incident_report = '$Incident_report',
          Offence_ID = '$Offence_ID' WHERE Incident_ID = '$Edit_incident_ID';");

mysqli_commit($conn);

} Catch () {…}
```

4-6. How it works (r_ins_edit.php) - Edit

```php
// existing person
    // unknown vehicle
    // Update incident with chosen people ID
$sql = "UPDATE Incident SET Vehicle_ID = NULL, People_ID = '$Ex_people_ID',
        Incident_date = '$Incident_date', Incident_report = '$Incident_report',
        Offence_ID = '$Offence_ID' WHERE Incident_ID = '$Edit_incident_ID';";

// new person
    // existing vehicle
    // check if the People_licence is already in the database

    // If not, use transaction to insert data into tables
try { mysqli_autocommit($conn, false);
    // Insert into People
    // Get the inserted People ID
    // Update Incident
    $sql = "UPDATE Incident SET Vehicle_ID = '$Ex_vehicle_ID', People_ID = '$People_ID',
            Incident_date = '$Incident_date', Incident_report = '$Incident_report',
            Offence_ID = '$Offence_ID' WHERE Incident_ID = '$Edit_incident_ID';";

mysqli_commit($conn); } Catch () {...}
```

```php
// new person
  // new vehicle
  // Check if the People_licence is already in the database
  // Check if the same vehicle licence number is already in the database

  // If not, use transaction to insert data into tables
  try { mysqli_autocommit($conn, false);
    // Insert into People
    // Get the inserted People ID
    // Insert into Vehicle
    // Get the inserted Vehicle ID
    // Update Incident
$sql = "UPDATE Incident SET Vehicle_ID = '$Vehicle_ID', People_ID = '$People_ID',
        Incident_date = '$Incident_date', Incident_report = '$Incident_report',
        Offence_ID = '$Offence_ID' WHERE Incident_ID = '$Edit_incident_ID';";

mysqli_commit($conn); } Catch () {…}
```

```php
// new person
  // unknown vehicle
  // check if the People_licence is already in the database

  // If not, use transaction to insert data into tables
  try { mysqli_autocommit($conn, false);

    // Insert into People
    // Get the inserted People ID
    // Update Incident
    $sql = "UPDATE Incident SET Vehicle_ID = NULL,
          People_ID = '$People_ID', Incident_date = '$Incident_date',
          Incident_report = '$Incident_report', Offence_ID = '$Offence_ID'
          WHERE Incident_ID = '$Edit_incident_ID';");

mysqli_commit($conn); } Catch () {…}
```

4-6. How it works (r_ins_edit.php) - Edit

```
// unknown person
  // existing vehicle
    // Update Incident
  $sql = "UPDATE Incident SET Vehicle_ID = '$Ex_vehicle_ID', People_ID = NULL,
         Incident_date = '$Incident_date', Incident_report = '$Incident_report',
         Offence_ID = '$Offence_ID' WHERE Incident_ID = '$Edit_incident_ID';";

// new vehicle
  // Check if the same vehicle licence number is already in the database

  // If not, use transaction to insert data into tables
  try { mysqli_autocommit($conn, false);

    // Insert into Vehicle
    // Get the inserted Vehicle ID
    // Update Incident
  $sql = "UPDATE Incident SET Vehicle_ID = '$Vehicle_ID', People_ID = NULL,
         Incident_date = '$Incident_date', Incident_report = '$Incident_report',
         Offence_ID = '$Offence_ID' WHERE Incident_ID = '$Edit_incident_ID';");

  mysqli_commit($conn); } Catch () {…}
```

```php
// unknown person
    // unknown vehicle
      // Update Incident
    $sql = "UPDATE Incident SET Vehicle_ID = NULL, People_ID = NULL,
            Incident_date = '$Incident_date', Incident_report = '$Incident_report',
            Offence_ID = '$Offence_ID' WHERE Incident_ID = '$Edit_incident_ID';";
```

4-7. How it works (offence.php)

List of Offence

Warning: Any kinds of modifications to the offence type record must be made in accordance with the law.
Also, any related fine or report records will be affected.

Max Fine: [min] To [max] ← $min, $max

Max Point: [min] To [max] ← $p_min, $p_max

[Offence description ▾] [Enter search keyword or just press search button] [🔍] [new] ← href off_ins_edit.php

off_ins_edit.php

href off_delete.php

description	Max Fine	Max Points		
Speeding 33	1000	3	Delete	Edit
Speeding on a motorway	2500	6	Delete	Edit
Seat belt offence	500	0	Delete	Edit
Illegal parking	500	0	Delete	Edit
Drink driving	10000	11	Delete	Edit
Driving without a licence	10000	0	Delete	Edit
Traffic light offences	1000	3	Delete	Edit
Cycling on pavement	500	0	Delete	Edit

$O_category $O_search

[1] [2] [Next]

Search result table

Button onclick = script function page_move();
It submits the form again with different page numbers

4-7. How it works (offence.php)

```php
// Select query
$sql_2 = "SELECT * FROM Offence
        WHERE " . $O_category . " LIKE \"%" . $O_search . "%\" AND
        Offence_maxFine BETWEEN '$Min' AND '$Max'
        AND Offence_maxPoints BETWEEN '$P_min' AND '$P_max'
        ORDER BY Offence_ID ASC LIMIT $start_from, $per_page_record;";

// if Max or P_Max is not specified, then it will be set the maximum float value
if ($_POST['max'] != '' && $_POST['max'] != null) {
    $Max = $_POST['max'];
} else {
 // $Max = PHP_FLOAT_MAX; if PHP 7.2+
    $Max = 1.7976931348623E+308;
}


if ($_POST['p_max'] != '' && $_POST['p_max'] != null) {
    $P_max = $_POST['p_max'];
} else {
 // $P_max = PHP_FLOAT_MAX; if PHP 7.2+
    $P_max = 1.7976931348623E+308;
}
```

4-7. How it works (off_delete.php)

offence.php
```
function confirmDelete(ID)
window.location.href = "off_delete.php?Offence_ID=".concat(ID)

GET method, each button contains each record's Offence_ID

<td><button onclick='confirmDelete(".$row["Offence_ID"].")'>
Delete</button></td>
```

off_delete.php
```
$Offence_ID=$_REQUEST['Offence_ID'];
$sql = "DELETE FROM Offence WHERE Offence_ID=".$Offence_ID.";";
```


Max Points		
3	Delete	Edit
6	Delete	Edit
0	Delete	Edit
0	Delete	Edit
11	Delete	Edit
0	Delete	Edit
3	Delete	Edit
0	Delete	Edit

4-7. How it works (off_ins_edit.php) - Insert

DIS Police DB System

Change password   Log out

NOTTINGHAMSHIRE POLICE

- Home
- People
- Vehicle
- Report
- Offence
- Fines
- Manage account

Insert New Offence

Description

`Enter Description`   ⟵ $Offence_description

Max fine

`Enter Max Fine`   ⟵ $Offence_maxFine

Max points

`Enter Max Points`   ⟵ $Offence_maxPoints

Submit   Cancel

```php
// check if the offence_description is already in the database
$Select_query = "SELECT * FROM Offence WHERE Offence_description = '$Offence_description'";

// If not, insert into Offence
$sql = "INSERT INTO Offence (Offence_description,Offence_maxFine,Offence_maxPoints)
        VALUES ('$Offence_description','$Offence_maxFine','$Offence_maxPoints')";
```

4-7. How it works (off_ins_edit.php) - Edit

```
offence.php
function Edit(ID)
window.location.href = "off_ins_edit.php?Offence_ID=".concat(ID).
concat("&&Status=1")

GET method, send selected ID and status=1

off_ins_edit.php
if (isset($_GET["Offence_ID"]) && $_GET["Status"] == 1)

// Get chosen Offence ID and status
$Edit_Offence_ID = $_GET["Offence_ID"];
$Status = $_GET["Status"];

// Get other previous input values
$Select_query = "SELECT * FROM Offence WHERE
                  Offence_ID = '$Edit_Offence_ID'";

  $Offence_description = $row['Offence_description'];
  $Offence_maxFine = $row['Offence_maxFine'];
  $Offence_maxPoints = $row['Offence_maxPoints'];

// Update Offence with new input values
$sql = "UPDATE Offence SET Offence_description = '$Offence_description', Offence_maxFine = '$Offence_maxFine',
    Offence_maxPoints = '$Offence_maxPoints' WHERE Offence_ID = '$Edit_Offence_ID'";
```
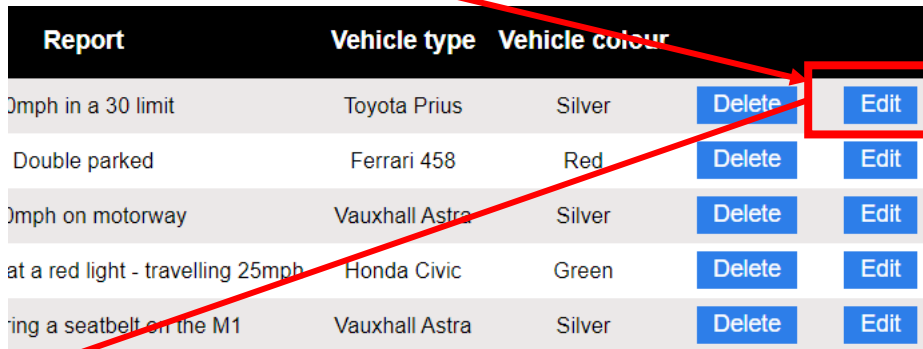

Report	Vehicle type	Vehicle colour		
0mph in a 30 limit	Toyota Prius	Silver	Delete	Edit
Double parked	Ferrari 458	Red	Delete	Edit
0mph on motorway	Vauxhall Astra	Silver	Delete	Edit
at a red light - travelling 25mph	Honda Civic	Green	Delete	Edit
ring a seatbelt on the M1	Vauxhall Astra	Silver	Delete	Edit

4-8. How it works (fines.php)

Search or Update Fine Record

From [mm/dd/yyyy] To [mm/dd/yyyy] ← $From, $To

Fine amount: [min] To [max] ← $Min, $Max

Fine Point: [min] To [max] ← $P_min, $P_max

[Fine ID ▼] [Enter search keyword or just press search button] [🔍] [new] ← href f_ins_edit.php

f_ins_edit.php

href f_delete.php

Fine ID	Fine amount	Fine points	Personal licence	Vehicle licence	Incident ID	Incident Date	Offence type	Max fine	Max points		
1	1000	3	SMITHR004JFS20TR	FD65WPQ	3	2017-09-17	Speeding 33	1000	3	Delete	Edit
2	50	0	SMITH222LE9FJ5DS	MY64PRE	2	2017-11-01	Illegal parking	500	0	Delete	Edit

[1]

Search result table

$F_category $F_search

Button onclick = script function page_move();
It submits the form again with different page numbers

4-8. How it works (fines.php)

```php
// Select query
// Natural left join to search fined incident and involved person and vehicle together
$sql_2 = "SELECT * FROM Fines NATURAL LEFT JOIN Incident NATURAL LEFT JOIN People
        NATURAL LEFT JOIN Vehicle NATURAL LEFT JOIN Offence
        where " . $F_category . " LIKE \"%" . $F_search . "%\" // Partial search
        AND Incident_date BETWEEN '$From' AND '$To'
        AND Fine_amount BETWEEN '$Min' AND '$Max'
        AND Fine_points BETWEEN '$P_min' AND '$P_max'
        ORDER BY Fine_ID ASC LIMIT $start_from, $per_page_record;"; // Pagination

// if Max or P_max is not specified, then it will be set the maximum float value
if ($_POST['max'] != '' && $_POST['max'] != null) {
    $Max = $_POST['max'];
} else {
 // $Max = PHP_FLOAT_MAX; if PHP 7.2+
    $Max = 1.7976931348623E+308;
}

// $P_max -> same

// if To date is not specified, then it will be set today's date
if ($_POST['to'] != '' && $_POST['to'] != null) {
    $To = $_POST['to'];
    } else {
    $To = date("Y-m-d");
    }
```

4-8. How it works (f_delete.php)
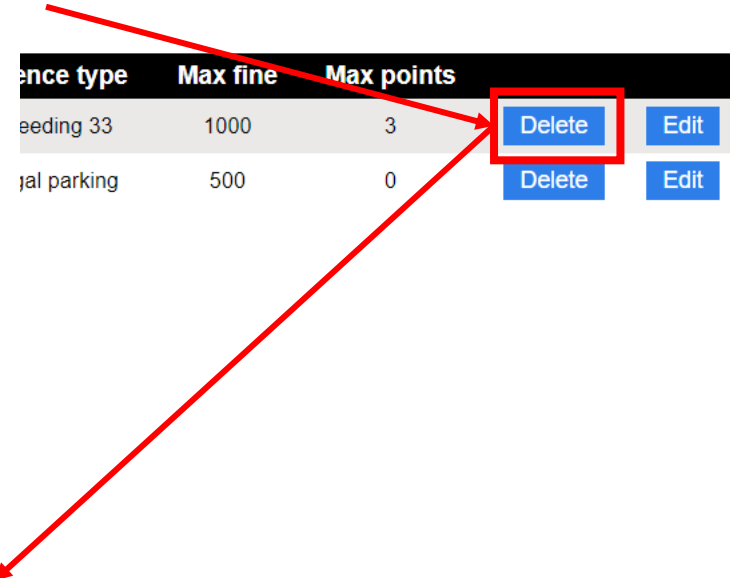
fines.php
```
function confirmDelete(ID)
window.location.href = "f_delete.php?Fine_ID=".concat(ID)

GET method, each button contains each record's Fine_ID

<td><button onclick='confirmDelete(".$row["Fine_ID"]."")'>
Delete</button></td>
```

ence type	Max fine	Max points		
eeding 33	1000	3	Delete	Edit
al parking	500	0	Delete	Edit

f_delete.php
```
$Fine_ID=$_REQUEST['Fine_ID'];
$sql = "DELETE FROM Fines WHERE Fine_ID=".$Fine_ID.";";
```

4-8. How it works (f_ins_edit.php) - Insert

These values will be inserted automatically

Insert New Fine Record

1. Search and Choose Report data

Offence type - All ▾

From mm/dd/yyyy 📅 To mm/dd/yyyy 📅

Incident ID ▾ | Enter search keyword or just press search | 🔍

Incident ID	Date	Personal licence	Vehicle licence	Offence type	Select
1	2017-12-01	SMITHR004JFS20TR	FP16KKE	Speeding	⦿
2	2017-11-01	SMITH222LE9FJ5DS	MY64PRE	Illegal parking	○
3	2017-09-17	SMITHR004JFS20TR	FD65WPQ	Speeding	○
4	2017-08-22	ALLEN88K23KLR9B3	FJ17AUG	Cycling on pavement	○
5	2017-10-17	SMITHR004JFS20TR	FD65WPQ	Seat belt offence	○

`1`

2. Input basic info

Selected Incident ID

`1` ← $Incident_ID

Max fine amount

`1000` ← $Max_amount

Fine amount

Enter fine amount (< max amount) ← $Fine_amount

Max fine points

`select();` `3` ← $Max_points

Fine points

Enter fine points (< max points) ← $Fine_points

Submit Cancel

If $Fine_amount <= $Max_amount and $Fine_points <= $Max_points,
(values can't be negative by input pattern)

$sql = "INSERT INTO Fines (Fine_amount, Fine_points, Incident_ID)
        VALUES ('$Fine_amount','$Fine_points','$Incident_ID')";

Home
People
Vehicle
Report
Offence
Fines
Manage account

4-8. How it works (f_ins_edit.php) - Edit

```
fines.php
function Edit(ID)
window.location.href = "f_ins_edit.php?Fine_ID=".concat(ID).
concat("&&Status=1")

GET method, send selected ID and status=1

f_ins_edit.php
if (isset($_GET["Fine_ID"]) && $_GET["Status"] == 1)

// Get chosen Fine ID and status
  $Edit_fine_ID = $_GET["Fine_ID"];
  $Status = $_GET["Status"];

// Get other previous input values
$Select_query = "SELECT * FROM Fines NATURAL LEFT JOIN Incident NATURAL LEFT JOIN Offence
                WHERE Fine_ID = '$Edit_fine_ID';";
$Fine_amount = trim($row['Fine_amount']);
$Fine_points = trim($row['Fine_points']);
$Max_amount = $row['Offence_maxFine'];
$Max_points = $row['Offence_maxPoints'];
$Incident_ID = $row['Incident_ID'];

// Update Fines with new input values
$sql = "UPDATE Fines SET Fine_amount = '$Fine_amount', Fine_points = '$Fine_points',
        Incident_ID = '$Incident_ID' WHERE Fine_ID = '$Edit_fine_ID';";
```
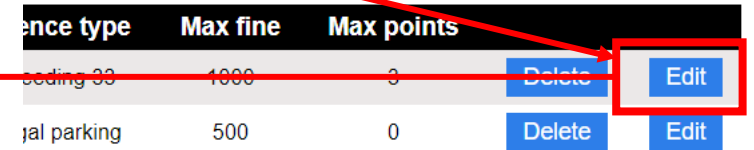
ence type	Max fine	Max points		
eding 33	1000	3	Delete	Edit
jal parking	500	0	Delete	Edit

4-9. How it works (accounts.php)

DIS Police DB System

[Admin] Hello, haskins.
Change password   Log out

Home
People
Vehicle
Report

Search or Create Accounts

Enter account name or just press search button   🔍 new

href a_delete.php

href a_insert.php

Account name

haskins

Regan   Delete

Carter   Delete

Search result table

1

$A_search

Button onclick = script function page_move();
It submits the form again with different page numbers

$sql = "SELECT * FROM Users where Users_name LIKE \"%" . $A_search . "%\";";

4-9. How it works (a_delete.php)
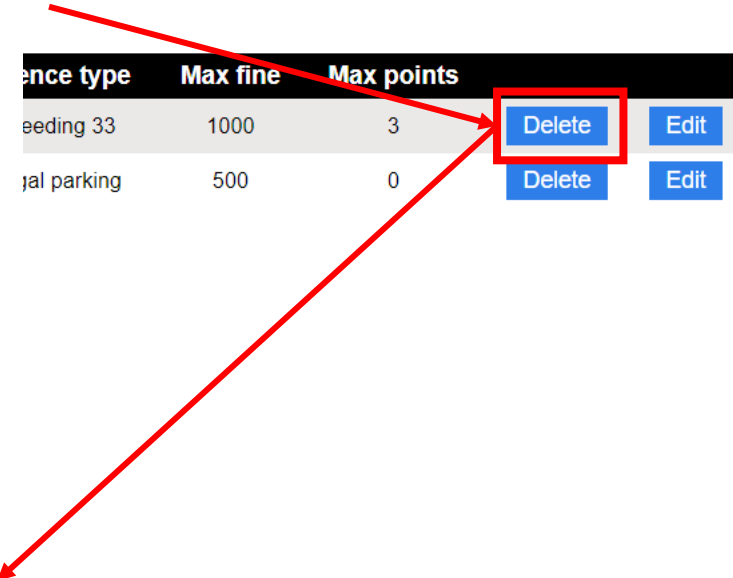
accounts.php
function confirmDelete(ID)
window.location.href = "a_delete.php?Users_ID=".concat(ID)

GET method, each button contains each record's Users_ID

<td><button onclick='confirmDelete(".$row["Users_ID"]."')'>
Delete</button></td>

ence type	Max fine	Max points		
eeding 33	1000	3	Delete	Edit
al parking	500	0	Delete	Edit

a_delete.php
$Users_ID=$_REQUEST['Users_ID'];
$sql = "DELETE FROM Users WHERE Users_ID=".$Users_ID.";";

4-9. How it works (a_insert.php) - Insert

Create an account

Please fill this form to create an account.

Username

`Enter Username using letters and numbers` ← $Users_name

Password

`Enter password 6-10 characters without spaces` ← $Users_password

Confirm Password

`Please input your password again to confirm` ← $Confirm_Users_password

Submit   Cancel

Home

People

Vehicle

Report

Offence

Fines

```
If $Users_password = $Confirm_Users_password,

$Ins_query = "INSERT INTO Users (Users_name, Users_password)
              VALUES ('$Users_name', '$Users_password')";
```

That's all!