

Chapter 3 – General Database Model

Users wishing to implement their own databases will require access to a web server (e.g. Apache) (either institutional or set up locally on their own computer) and will require MySQL, PHP and Python to be installed. Words in bold and between < > need to be edited accordingly. The code below is specifically for a project containing two datasets with one data collection time point at one of the datasets (which is also all female) and multiple collection time points at the other dataset (male and female). Adjustments can however be made as required.

1) Set up database and tables in MySQL

```
CREATE DATABASE <database_name>;
```

```
USE <database_name>;
```

#Individual/phenotype data tables:

```
CREATE TABLE <unchangeable_phenotype_data_table_name> (  
    IDa          VARCHAR(x)b          NOT NULL    PRIMARY KEYc,  
    Column 2     VARCHAR(x)  
    .  
    .  
    Column n     VARCHAR(x) );
```

^a *This table will contain the unique ID of each individual in the dataset as well as any other individual/phenotype data that remains the same over time (e.g. gender, ethnicity).*

^b *Indicates the data type and size of the data type (x). x will vary for each column.*

^c *Special constraints can be added to each column. e.g. PRIMARY KEY is assigned to the column that can uniquely identify each row.*

```
CREATE TABLE <changeable_phenotype_data_table_name>a (  
    ID          VARCHAR(x)          NOT NULL    PRIMARY KEY,  
    Column 2_yrx    VARCHAR(x)  
    .  
    .  
    Column n_yrn    VARCHAR(x) );
```

^a This table is necessary if there is data for multiple time points and contains any individual/phenotype data that changes over time (e.g. age, weight, height, BP). One table exists for each time point. If only one time point exists, it can be combined with the previous table.

#SNP data table:

If data currently exists in separate spreadsheets, separate tables (each with a common column e.g. SNPID36) can be created and populated with data and then merged into one table using an SQL LEFT JOIN. Otherwise, one table can be created as follows:

```
CREATE TABLE <SNP_information/annotation_data_table_name> (  
    SNPID36a          VARCHAR(x)          NOT NULL    PRIMARY KEY,  
    SNPID37a          VARCHAR(x)          NOT NULL    UNIQUE,  
    Chromosome        VARCHAR(2) ,  
    BasePairPosition36a  VARCHAR(x) ,  
    BasePairPosition37a  VARCHAR(x) ,  
    NearestGeneb        VARCHAR(x) ,  
    LocationWithinGenec  VARCHAR(x) ) ;  
    Allele1           CHAR(1) ,  
    Allele2           CHAR(1) ) ;  
    AfterQCd          VARCHAR(x) ) ;
```

^a The table can include SNPID36s and base pair positions for one or multiple builds, depending on what is useful for the dataset being used.

^b Indicates the gene in which the SNP lies or is nearest to (in the case of intergenic SNPs).

^c Intronic, coding, intergenic etc.

^d If the genotype data has gone through a quality control process, this column is useful to indicate whether or not the SNP remained after QC. If only information for SNPs that remain after QC is present in the table, this column can be left out.

*Any additional columns can be added.

#Association analysis data table:

```
CREATE TABLE <SNP_association_data_table_name>a (  
    SNPID36          VARCHAR (x)          NOT NULL,  
    Dataseta        VARCHAR (x),  
    Phenotype        CHAR (x),  
    P_valueUncorrected  VARCHAR(x),  
    Beta_ORUncorrected  VARCHAR(x),  
    P_valueCorrected    VARCHAR(x),  
    Beta_ORCorrected    VARCHAR(x),  
    Covariate1b      CHAR (x),  
    Covariate2b      CHAR (x),  
    Covariate3b      CHAR (x));
```

```
ALTER TABLE metabochip_snp_associations_batch1_all ADD PRIMARY  
KEY (SNPID36, Dataset, Phenotype);
```

^a *One or multiple tables can be created depending on whether analyses were carried out in one or multiple subsets of the data. If only one subset exists, the 'Dataset' column can be left out.*

^b *More or less covariate columns can be added as appropriate.*

#Username and password table:

```
CREATE TABLE user (  
    username  VARCHAR (40)    NOT NULL    PRIMARY KEY,  
    password  VARCHAR (40));
```

2) Add data to the tables

To allow Python to insert data, download and install MySQLdb from:
<https://sourceforge.net/projects/mysql-python/>

Then run the following script in the command line for each table (python **<Script_name>**):

```
#!/usr/bin/python

import csv
import MySQLdb

db =
MySQLdb.connect("localhost", "<USERNAME>", "<PASSWORD>", "<DATABASE
NAME>")

cursor = db.cursor()

csv_data=csv.reader(file('<name of .csv file containing data>'a'))
for row in csv_data:
    cursor.execute("INSERT INTO <MySQL_table_name>(<Column names
as they appear in the table>) VALUES (<include %s separated by
commas for each column>), row)

db.commit()

cursor.close()
```

^a The data to be inserted into the tables must be saved as a CSV file with column headings removed.

3) Web interface

Style Pages *(These can be edited to suit the user's style preferences)*

style.html

```
<html>

  <style>
    header {
      background-color: #3db2c2;
      font-family: calibri;
      text-align: right;
    }
    body {
      background-color: powderblue;
      text-align: center;
      font-family: calibri;
      margin-bottom: 50px;
    }
    h1 {
      font-family: calibri;
      color: #12353a;
      font-size: 300%;
      text-align: center;
      border: solid crimson 5px;
    }
    h2 {
      font-family: calibri;
      font-size: 200%;
      text-align: center;
```

```
}
h3 {
    font-family: calibri;
    font-size: 150%;
    text-align: center;
}
p {
    font-family: calibri;
    font-size: 110%;
    text-align: center;
    margin-left: auto;
    margin-right: auto;
}
p.first {
    font-family: calibri;
    font-size: 110%;
    text-align: center;
    margin-left: auto;
    margin-right: auto;
    width: 650px;
    border: solid green 2px;
}
p.second {
    font-family: calibri;
    font-size: 105%;
    text-align: center;
    margin-left: auto;
    margin-right: auto;
    width: 900px;
}
footer {
```

```
        position:fixed;
        bottom:0;
        width:100%;
        height:auto;
        background-color: #3db2c2;
        font-family: calibri;
        text-align: center;
    }
    input.navigate {
        background-color: #f6a2b3;
        border-radius: 2px;
        border: 1px solid #4d4d4d;
        box-shadow: 0 8px 16px 0 rgba(0,0,0,0.2), 0 6px 20px 0 rgba(0,0,0,0.19)
    }
    input.link {
        background-color: #e6e6e6;
        border-radius: 2px;
        border: 1px solid #4d4d4d;
        box-shadow: 0 8px 16px 0 rgba(0,0,0,0.2), 0 6px 20px 0 rgba(0,0,0,0.19)
    }
    input[type="number"] {
        -moz-appearance:textfield;
    }
    input[type="number"]::-webkit-outer-spin-button,
    input[type="number"]::-webkit-inner-spin-button {
        -webkit-appearance: none;
    }
    div.output {
        color: #8c0d26;
        font-size: 120%;
    }
}
```

```
    </style>

</html>
```

style2.html

```
<html>

  <style>
    header {
      background-color: #3db2c2;
      font-family: calibri;
      text-align: right;
    }
    body {
      background-color: powderblue;
      text-align: left;
      font-family: calibri;
      margin-bottom: 50px;
    }
    h1 {
      font-family: calibri;
      color: #12353a;
      font-size: 300%;
      text-align: center;
      border: solid crimson 5px;
    }
    h2 {
      font-family: calibri;
      font-size: 200%;
```



```
        text-align: center;
    }
    h3 {
        font-family: calibri;
        font-size: 150%;
        text-align: center;
    }
    footer {
        position: fixed;
        bottom: 0;
        width: 100%;
        height: auto;
        background-color: #3db2c2;
        font-family: calibri;
        text-align: center;
    }
    input.navigate {
        background-color: #f6a2b3;
        border-radius: 2px;
        border: 1px solid #4d4d4d;
        box-shadow: 0 8px 16px 0 rgba(0,0,0,0.2), 0 6px 20px 0 rgba(0,0,0,0.19)
    }
    input.link {
        background-color: #e6e6e6;
        border-radius: 2px;
        border: 1px solid #4d4d4d;
        box-shadow: 0 8px 16px 0 rgba(0,0,0,0.2), 0 6px 20px 0 rgba(0,0,0,0.19)
    }
    input[type="number"] {
        -moz-appearance: textfield;
    }
}
```

</html>

```
<html>
```

[illegible]

```
<html>
```

[illegible]

[illegible]

Configuration/login/logout pages

config.php (for creating a connection to the MySQL database)

```
<?php

$hostname = "localhost";
$username = "<USERNAME>";
$password = "<PASSWORD>";
$dbname = "<DATABASE NAME>";

// Create connection
$conn = new mysqli($hostname, $username, $password, $dbname);
// Check connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

?>
```

index.php

This is the login page and the location of the link to a downloadable README (this is optional but useful to help users orientate themselves around the database and to let them know a bit more about the contents of the database and the queries that can be made).

```
<html>

  <head>

    <?php
    include("style.html");
    include("header_1.html");
    ?>

    <title> <DATABASE NAME> Database</title>

    <style>

    table, th, td {
      font-family: calibri;
      text-align: center;
      padding: 5px;
    }
    </style>

  </head>

  <body>

    <h1><DATABASE NAME> Database</h1>
```

```
<br>

<table align="center">

    <form action="loginhandler.php" method="post">

        <tr><td>Username:</td><td><input type="text" name="username"
size="20"></td></tr>

        <tr><td>Password:</td><td><input type="password" name="password"
size="20"></td></tr>

        <tr><td>&nbsp;</td><td>&nbsp;<input type="submit" value="Login"></td></tr>

    </form>

</table>

    If you are new to the <b><DATABASE NAME></b> Database, please send me an e-mail and I will add
you as a user. Then click <a href="registration.php">here</a> to create your password.

    <br>
    <br>

    <p><b><i>Download the README <a href="README.docx" style="text-decoration:
none">here</a>.</b></i></p>

</body>

</html>
```

loginhandler.php

```
<html>

    <head>

        <?php
        include("style.html");
        include("header_1.html");
        ?>

        <title>Authorisation Error</title>

    </head>

    <body>

        <h1><DATABASE NAME> Database </h1>

        <br>

        <p><b>Incorrect username and/or password.</b></p>

        <p><b>Try <a href="index.php">logging in</a> again.</b></p>

        <?php

        session_start();

        include("config.php");
```

```
$username2=$_POST["username"];
$password2=$_POST["password"];

$sql="SELECT * FROM user WHERE username = '$username2' AND password = MD5('$password2')";

$login = $conn->query($sql);

$row_cnt=$login->num_rows;
if ($row_cnt == 1) {

    $_SESSION["username"] = $_POST["username"];

    header("Location: TitlePage.php");

}

?>

</body>

</html>
```

logout.php

```
<?php

session_start();

unset($_SESSION['username']);
```

```
header('Location: index.php');
```

```
?>
```

Session control/Timeout

sessioncontrol.php

```
<?php
```

```
session_start();
```

```
$inactive = 480;
```

```
if(isset($_SESSION["timeout"]) ) {  
    $session_life = time() - $_SESSION["timeout"];  
    if($session_life > $inactive) {  
        header("Location: Timeout.php");  
        session_destroy();  
    }  
}
```

```
$_SESSION["timeout"] = time();
```

```
if (!isset($_SESSION["username"])) {  
    header("Location: index.php");  
}
```

```
?>
```


Timeout.php

```
<html>

    <head>

        <?php include("style.html"); ?>

        <title><DATABASE NAME> Login</title>

    </head>

    <body>

        <h1><DATABASE NAME> Database</h1>
        <br>

        <p><b>You were inactive for too long!</b></p>

        <p><b>Please <a href="index.php">login</a> again.</b></p>

    </body>

</html>
```

Password registration

registration.php

```
<html>

    <head>

        <?php
        include("style.html");
        include("header_1.html");
        ?>

        <title><DATABASE NAME> Database</title>

        <style>

            table, th, td {
                font-family: calibri;
                text-align: center;
                padding: 5px;
            }
        </style>

    </head>

    <body>

        <h1><DATABASE NAME> Database</h1>
        <br>
```

```
<table align="center">

    <form action="registrationhandler.php" method="post">

        <tr><td>Username:</td><td><input type="text" name="username"
size="20"></td></tr>

        <tr><td>Enter password:</td><td><input type="password" name="password"
size="20"></td></tr>

        <tr><td>Re-enter password:</td><td><input type="password" name="password2"
size="20"></td></tr>

        <tr><td>&nbsp;</td><td>&nbsp;<input type="submit" value="Register"></td></tr>

    </form>

</table>

</body>

</html>
```

registrationhandler.php

```
<html>

    <head>

        <?php
```

```
include("style.html");
include("header_1.html");
?>

<title>Registration Error</title>

</head>

<body>

    <h1><DATABASE NAME> Database</h1>

    <br>

    <?php

        include("config.php");

        $username=$_POST["username"];
        $password=$_POST["password"];
        $password2=$_POST["password2"];

        if ($password==$password2) {
            $sql="SELECT * FROM user WHERE username='$username'";
            $result = $conn->query($sql);
            $row_cnt=$result->num_rows;
            if ($row_cnt==1) {
                $sql2="UPDATE user SET password=MD5('$password') WHERE username='$username'";
                $registration=$conn->query($sql2);
                echo "Registration successssful! Proceed to <a href='index.php'>login page</a>";
            }
        }
    }
}
```

```

        } else {
            echo "You do not exist as a user in the database!";
        }
    } else {
        echo "Try again!";
    }

    $conn->close();

?>

</body>

</html>

```

Print/Save Option (Modified from <http://stackoverflow.com/questions/1853094/how-to-get-the-columns-names-along-with-resultset-in-php-mysql-and-other-sources>)

print_or_save.php

```

<?php

if ($Retrieve == "Print to screen"){

    echo '<table>';
    $columns=array();
    $resultset=array();
    while ($row = mysqli_fetch_assoc($result)) {
        if (empty($columns)) {

```

```

        $columns = array_keys($row);
        echo '<tr><th>'.implode('</th><th>', $columns).'</th></tr>';
    }
    $resultset[] = $row;
    echo '<tr><td>'.implode('</td><td>', $row).'</td></tr>';
}

} elseif ($Retrieve == "Save to file (.csv)") {

    $columns=array();
    $resultset=array();
    ob_end_clean();
    $myfile = fopen("outputs/output.csv", "w") or die("Unable to save to file!");
    while ($row = mysqli_fetch_assoc($result)) {
        if (empty($columns)) {
            $columns = array_keys($row);
            $Data1=implode(",", $columns);
            fwrite($myfile, $Data1);
        }
        $resultset[] = $row;
        $Data2= "\n".implode(",", $row);
        fwrite($myfile, $Data2);
    }
    fclose($myfile);

    header('Content-Type: text/csv');
    header('Content-Disposition: attachment; filename="output.csv"');
    readfile('outputs/output.csv');
    exit();
}

```

?>

Title/Home Page

This is the first page users are directed to after logging in. It is useful to have a brief description of the data contained in the database and then links to the other pages where users can calculate summary statistics or download data.

TitlePage.php

```
<html>

    <head>

        <?php
        include("style.html");
        include("sessioncontrol.php");
        include("header_2.html");
        ?>

        <title><DATABASE NAME> Database</title>

    </head>

    <body>

        <h1><DATABASE NAME> Database</h1>
        <br>
        <p class="first"> <i>< INFO ABOUT DATABASE - PARAGRAPH 1></i></p>
        <br>
```

```
<p class="second">< INFO ABOUT DATABASE - PARAGRAPH 2></p>
<br>
```

```
#Additional paragraphs can be added as required
```

```
<form action="SummaryStatistics.php">
  <input type="submit" value="Summary Statistics">
</form>
```

```
<br>
```

```
<form action="DownloadData.php">
  <input type="submit" value="Download Data">
</form>
```

```
<br>
```

```
<form action="GenotypeData.php">
  <input type="submit" value="Genotype Data">
</form>
```

```
</body>
```

```
<footer>
```

```
  <b>Useful links: </b><input type="button" onClick="parent.location='<URL OF USEFUL LINK>'"
value="<LABEL FOR USEFUL LINK>" class="link">
```

```
  #Additional links can be added as required
```

```
</footer>
```

```
</html>
```


Summary Statistics Main Page

SummaryStatistics.php

```
<html>

    <head>

        <?php
            include("style.html");
            include("sessioncontrol.php");
            include("header_2.html");
        ?>

        <title><DATABASE NAME> Database/Summary Statistics</title>

    </head>

    <body>

        <h1><DATABASE NAME> Database</h1>
        <h2>Summary Statistics</h2>

        <form action="CountBasic.php">
            <input type="submit" value="Count">
        </form>

        <br>

        <form action="AveMinMax.php">
            <input type="submit" value="Average/Minimum/Maximum">
```

```

        </form>

</body>

<footer>
    <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
    &nbsp;&nbsp;&nbsp;&nbsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>'" value="<LABEL FOR USEFUL LINK>" class="link">
    #Additional links can be added as required
</footer>

</html>

```

Download Data Main Page

DownloadData.php

```

<html>

<head>

    <?php
    include("style.html");
    include("sessioncontrol.php");
    include("header_2.html");
    ?>

    <title><DATABASE NAME> Database/Download Data</title>

```

```

</head>

<body>

    <h1><DATABASE NAME> Database</h1>
    <h2>Download Data</h2>

    <form action="PhenotypeData.php">
        <input type="submit" value="Phenotype Data">
    </form>

    <br>

    <form action="SNPData_a.php">
        <input type="submit" value="SNP Data">
    </form>

    <br>

    <form action="AssociationData_a.php">
        <input type="submit" value="Association Analysis Data">
    </form>

</body>

<footer>
    <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
    &nbsp;&nbsp;&nbsp;&nbsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>'" value="<LABEL FOR USEFUL LINK>" class="link">
    #Additional links can be added as required

```

```
</footer>

</html>
```

Genotype Data Page

This page is optional and the contents of this page can be adjusted to contain any useful information. As I did not want the genotype files to be freely downloadable over the interface, I included useful information for manipulation of the genotype data files. As the style was quite different to other pages, a separate style section was included.

GenotypeData.php

```
<html>

    <head>

        <?php
        include("sessioncontrol.php");
        ?>

        <title><DATABASE NAME> Database/Genotype Data</title>

        <style>
        header {
            background-color: #3db2c2;
            font-family: calibri;
            text-align: right;
        }
```

```
body {
    background-color: powderblue;
    text-align: center;
    font-family: calibri;
    margin-bottom: 50px;
}
h1 {
    font-family: calibri;
    color: #12353a;
    font-size: 300%;
    text-align: center;
    border: solid crimson 5px;
}
h2 {
    font-family: calibri;
    font-size: 200%;
    text-align: center;
}
h3 {
    font-family: calibri;
    font-size: 130%;
    text-align: center;
}
h4 {
    font-family: calibri;
    font-size: 120%;
    text-align: center;
}
p.first {
    font-family: calibri;
    font-size: 110%;
```

```
        text-align: center;
        margin-left: auto;
        margin-right: auto;
        width: 800px;
    }
    p.second {
        font-family: calibri;
    }
    p.third {
        font-family: calibri;
        color: green;
    }
    p.fourth {
        font-family: calibri;
        font-size: 120%;
    }
    div {
        width: 1050px;
        align: center;
        border: solid red 2px;
        margin: auto auto;
    }
    footer {
        position:fixed;
        bottom:0;
        width:100%;
        height:auto;
        background-color: #3db2c2;
        font-family: calibri;
        text-align: center;
    }
}
```

[illegible]

<h3>SOME INFORMATION YOU MIGHT FIND USEFUL☺...</h3>

<h4>APPROPRIATE HEADING</h4>

<div>

<p class="second">APPROPRIATE CONTENT</p>

<p class="third">APPROPRIATE CONTENT</p>

</div>

#Any number of paragraphs/sentences can be included.

</body>

<footer>

<input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">

   Useful links: <input type="button" onClick="parent.location='<URL
OF USEFUL LINK>' value="<LABEL FOR USEFUL LINK>" class="link">

#Additional links can be added as required

</footer>

</html>

Basic Count Page

This page is for counts of individuals (all, male or female) in a dataset(s) without criteria specified.

CountBasic.php

```
<html>

    <head>

        <?php
            include("style.html");
            include("sessioncontrol.php");
            include("config.php");
            include("header_2.html");
        ?>

        <title><DATABASE NAME> Database/Summary Statistics/Count</title>

    </head>

    <body>

        <h1><DATABASE NAME> Database</h1>
        <h2>Summary Statistics</h2>
        <h3>Basic Count</h3>

        <form method = "post">

            <b>Individuals: </b><select name = "Individual">
```

```

        <option name = "all" value="all" <?php echo
$_POST['Individual']==all?"selected":""; ?>>All</option>
        <option name = "males" value="1" <?php echo
$_POST['Individual']==1?"selected":""; ?>>Males</option>
        <option name = "females" value="2" <?php echo
$_POST['Individual']==2?"selected":""; ?>>Females</option>
    </select>

```

```

    <b>Dataset: </b><select name = "Dataset">

```

```

        #If more than two datasets exist, they can be added OR if only one dataset
exists this drop-down menu can be removed altogether. Edit code here and below
accordingly.

```

```

        <option name = "<NAME OF DATASET 1>" value="1" <?php echo
$_POST['Dataset']==1?"selected":""; ?>> <NAME OF DATASET 1></option>
        <option name = "<NAME OF DATASET 2>" value="2" <?php echo
$_POST['Dataset']==2?"selected":""; ?>> <NAME OF DATASET 1></option>
    </select>

```

```

    <br>

```

```

    <br>

```

```

        <input type = "submit" value = "Retrieve count">
    </form>

```

```

    <br>

```

```

    <form action="CountComplex.php">
        <input type="submit" value="Add criteria">
    </form>

```

```
<br>
<br>

<div class ="output">
<?php

if ($_SERVER['REQUEST_METHOD'] == 'POST') {

$Gender = $_POST["Individual"];
    if($Gender=="1") {
        $Gender_name="males";
    } elseif ($Gender=="2") {
        $Gender_name="females";
    }
$Dataset= $_POST["Dataset"];
    if ($Dataset=="1") {
        $Dataset_value="<unchangeable_phenotype_data_table_name (1)>";
        $Dataset_name="<NAME OF DATASET 1>";
    } elseif($Dataset=="2") {
        $Dataset_value="<unchangeable_phenotype_data_table_name (2)>";
        $Dataset_name="<NAME OF DATASET 2>";
    }

if($_POST["Individual"]=="all") {

    $sql = "SELECT * FROM $Dataset_value";
    $result = $conn->query($sql);

    if ($result = $conn->query($sql)) {
        $row_cnt = $result->num_rows;
    }
}
```

```

printf("<strong>There are $row_cnt individuals in the $Dataset_name dataset.</strong>") ;

} else {

    $sql = "SELECT * FROM $Dataset_value WHERE Gender = $Gender";
    $result = $conn->query($sql);

    if ($result = $conn->query($sql)) {
        $row_cnt = $result->num_rows;
    }

    printf("<strong>There are $row_cnt $Gender_name in the $Dataset_name
dataset.<br></strong>");
}

$conn->close();
}
?>
</div>

</body>

<footer>
    <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
    <input type="button" onClick="parent.location='SummaryStatistics.php'" value="Summary
Statistics" class="navigate">
    &emsp;&emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>'" value="<LABEL FOR USEFUL LINK>" class="link">
    #Additional links can be added as required

```

```
</footer>
```

```
</html>
```

Complex Count Page

This page is for counts of individuals (all, male or female) in a dataset(s) with criteria specified.

CountComplex.php

```
<html>
```

```
<head>
```

```
<?php
include("style.html");
include("sessioncontrol.php");
include("config.php");
include("header_2.html");
?>
```

```
<title><DATABASE NAME> Database/Summary Statistics/Count</title>
```

```
</head>
```

```
<body>
```

```
<h1><DATABASE NAME> Database</h1>
```

<h2>Summary Statistics</h2>

<h3>Complex Count</h3>

<form method = "post">

```
<b>Individuals: </b><select name = "Individual">
    <option name = "all" value="all" <?php echo
$_POST['Individual']==all?"selected":""; ?>>All</option>
    <option name = "males" value="1" <?php echo
$_POST['Individual']==1?"selected":""; ?>>Males</option>
    <option name = "females" value="2" <?php echo
$_POST['Individual']==2?"selected":""; ?>>Females</option>
</select>

<b>Data collection time point: </b><select name = "Year">
    <option name = "<b><NAME OF TIME POINT e.g. 5></b>" value="1" <?php echo
$_POST['Year']==1?"selected":""; ?>> <b><NAME OF TIME POINT e.g. Year 5></b></option>
    # Selection options can be added for each data collection time point in the
    longitudinal dataset(s). The same structure is followed for each with "value"
    increasing by one each time.
</select>

<b>Dataset: </b><select name = "Dataset">
    #If more than two datasets exist, they can be added OR if only one dataset
    exists this drop-down menu can be removed altogether. Edit code here and below
    accordingly.
    <option name = "<b><NAME OF DATASET 1></b>" value="1" <?php echo
$_POST['Dataset']==1?"selected":""; ?>> <b><NAME OF DATASET 1></b></option>
    <option name = "<b><NAME OF DATASET 2></b>" value="2" <?php echo
$_POST['Dataset']==2?"selected":""; ?>> <b><NAME OF DATASET 1></b></option>
</select>
```

[illegible]


```

                <option name = "Less Than Or Equal To" value="<=" <?php echo
$_POST['Operator3']=="<="?"selected":""; ?>><=/option>
            </select>

            <input type="number" step="any" name="CriteriaValue3" placeholder="Enter value"
value="<?php echo isset($_POST['CriteriaValue3']) ? $_POST['CriteriaValue3'] : '' ?>">

            <br>
            <br>

            <input type = "submit" value = "Retrieve count">
            <input type="button" onClick="parent.location='CountComplex.php'" value="Reset">
            <input type="button" onClick="parent.location='CountBasic.php'" value="Back">

        </form>

        <br>
        <br>

        <div class = "output">
        <?php

        if ($_SERVER['REQUEST_METHOD'] == 'POST') {

        $Gender = $_POST["Individual"];
            if($Gender=="1") {
                $Gender_name="male(s)";
            } elseif ($Gender=="2") {
                $Gender_name="female(s)";
            }
        $Year=$_POST["Year"];

```

```

if($Year=="1") {
    $Year_value="< changeable_phenotype_data_table_name (for year x)>";
    $Year_name="<year x>";
    $Year_add="<_yrx>";
} elseif($Year=="2") {
    #Repeat as above for each data collection time point.
}
$Dataset= $_POST["Dataset"];
if ($Dataset=="1") {
    $Dataset_value="<unchangeable_phenotype_data_table_name (1)>";
    $Dataset_name="<NAME OF DATASET 1>";
} elseif($Dataset=="2") {
    $Dataset_value="<unchangeable_phenotype_data_table_name (2)>";
    $Dataset_name="<NAME OF DATASET 2>";
}
$Phenotype=$_POST["Phenotype"];
if ($Phenotype=="1") {
    $Phenotype_value="<PHENOTYPE NAME (as it appears in MySQL database) e.g.
Age>$Year_add";
    $Phenotype_name="<PHENOTYPE NAME e.g. age>";
    $Phenotype_unit="<PHENOTYPE UNIT OF MEASUREMENT e.g. years>";
} elseif($Phenotype=="2") {
    #Repeat as above for each phenotype.
}

$Operator=$_POST["Operator"];
$criteriaValue=$_POST["CriteriaValue"];

$Phenotype2=$_POST["Phenotype2"];
if ($Phenotype2=="1") {

```

```

        $Phenotype2_value="<PHENOTYPE NAME (as it appears in MySQL database) e.g.
Age>$Year_add";
        $Phenotype2_name="<PHENOTYPE NAME e.g. age>";
        $Phenotype2_unit="<PHENOTYPE UNIT OF MEASUREMENT e.g. years>";
    } elseif($Phenotype2=="2") {
        #Repeat as above for each phenotype.
    }

    $Operator2=$_POST["Operator2"];
    $CriteriaValue2=$_POST["CriteriaValue2"];

    $Phenotype3=$_POST["Phenotype3"];
    if ($Phenotype3=="1") {
        $Phenotype3_value="<PHENOTYPE NAME (as it appears in MySQL database) e.g.
Age>$Year_add";
        $Phenotype3_name="<PHENOTYPE NAME e.g. age>";
        $Phenotype3_unit="<PHENOTYPE UNIT OF MEASUREMENT e.g. years>";
    } elseif($Phenotype3=="2") {
        #Repeat as above for each phenotype.
    }

    $Operator3=$_POST["Operator3"];
    $CriteriaValue3=$_POST["CriteriaValue3"];

    #Include the code in italics below if data only exists at one data collection time point
    for a particular dataset.
    if($Year!="5" AND $Dataset=="1") {

        printf("<strong>There is no data for the <DATASET NAME> at the $Year_name data
collection timepoint.</strong>");
    }

```

```

if($_POST["Individual"]=="all") {

    #Include the code in italics below if data only exists at one data collection time
point for a particular dataset.
    if($Dataset=="1") {

        $sql = "SELECT * FROM $Dataset_value NATURAL JOIN
<changeable_phenotype_data_table_name> WHERE $Phenotype_value $Operator $CriteriaValue
$Phenotype2_value $Operator2 $CriteriaValue2 $Phenotype3_value $Operator3 $CriteriaValue3";

    } else {

        $sql = "SELECT * FROM $Dataset_value NATURAL JOIN $Year_value WHERE
$Phenotype_value $Operator $CriteriaValue $Phenotype2_value $Operator2 $CriteriaValue2
$Phenotype3_value $Operator3 $CriteriaValue3";

    }
    $result = $conn->query($sql);

    if ($result = $conn->query($sql)) {
        $row_cnt = $result->num_rows;

        #Include the code in italics below if data only exists at one data collection
time point for a particular dataset.
        if($Dataset=="1" AND $Phenotype!="0" AND $Operator!="") {

            printf("<strong>There are $row_cnt individual(s) in the <YEAR AT WHICH
DATA DOES EXIST> $Dataset_name dataset with $Phenotype_name $Operator $CriteriaValue $Phenotype_unit
$Phenotype2_name $Operator2 $CriteriaValue2 $Phenotype2_unit $Phenotype3_name $Operator3
$CriteriaValue3 $Phenotype3_unit.</strong>");

```

```

        } elseif ($Dataset=="2" AND $Phenotype!="0" AND $Operator!="") {

            printf("<strong>There are $row_cnt individual(s) in the $Year_name
$Dataset_name dataset with $Phenotype_name $Operator $CriteriaValue $Phenotype_unit $Phenotype2_name
$Operator2 $CriteriaValue2 $Phenotype2_unit $Phenotype3_name $Operator3 $CriteriaValue3
$Phenotype3_unit.</strong>");

        }

    } else {

        #Include the code in italics below if data only exists at one data collection time
point for a particular dataset.
        if($Dataset=="1") {

            $sql = "SELECT * FROM $Dataset_value NATURAL JOIN
<changeable_phenotype_data_table_name> WHERE $Phenotype_value $Operator $CriteriaValue
$Phenotype2_value $Operator2 $CriteriaValue2 $Phenotype3_value $Operator3 $CriteriaValue3 AND Gender
= $Gender";

        } else {

            $sql = "SELECT * FROM $Dataset_value NATURAL JOIN $Year_value WHERE
$Phenotype_value $Operator $CriteriaValue $Phenotype2_value $Operator2 $CriteriaValue2
$Phenotype3_value $Operator3 $CriteriaValue3 AND Gender = $Gender";

        }

        $result = $conn->query($sql);
    }

```

```

        if ($result = $conn->query($sql)) {
            $row_cnt = $result->num_rows;

            #Include the code in italics below if data only exists at one data collection
time point for a particular dataset.
            if($Dataset=="1" AND $Phenotype!="0" AND $Operator!="") {

                printf("<strong>There are $row_cnt $Gender_name in the <YEAR AT WHICH DATA
DOES EXIST> $Dataset_name dataset with $Phenotype_name $Operator $CriteriaValue $Phenotype_unit
$Phenotype2_name $Operator2 $CriteriaValue2 $Phenotype2_unit $Phenotype3_name $Operator3
$CriteriaValue3 $Phenotype3_unit.<br></strong>");

            } elseif ($Dataset=="2" AND $Phenotype!="0" AND $Operator!="") {

                printf("<strong>There are $row_cnt $Gender_name in the $Year_name
$Dataset_name dataset with $Phenotype_name $Operator $CriteriaValue $Phenotype_unit $Phenotype2_name
$Operator2 $CriteriaValue2 $Phenotype2_unit $Phenotype3_name $Operator3 $CriteriaValue3
$Phenotype3_unit.<br></strong>");

            }

        }

        $conn->close();
    }
    ?>
</div>

</body>

<footer>

```

```

        <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
        <input type="button" onClick="parent.location='SummaryStatistics.php'" value="Summary
Statistics" class="navigate">
        &emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>' value="<LABEL FOR USEFUL LINK>" class="link">
        #Additional links can be added as required
    </footer>

</html>

```

Average/Minimum/Maximum Pages

This page is for calculation of average/minimum/maximum of a particular phenotype for individuals (all, male, female or user-specified) in a dataset(s).

AveMinMax.php

```

<html>

    <head>

        <?php
        include("style.html");
        include("sessioncontrol.php");
        include("config.php");
        include("header_2.html");
        ?>

```



```

<title><DATABASE NAME> Database/Summary Statistics/AveMinMax</title>

</head>

<body>

    <h1><DATABASE NAME> Database</h1>
    <h2>Summary Statistics</h2>
    <h3>Average/Minimum/Maximum</h3>

    <form method = "post">

        <b>Measurement: </b><select name = "Measurement">
            <option name = "Average" value="Average" <?php echo
$_POST['Measurement']==Average?"selected":""; ?>>Average</option>
            <option name = "Minimum" value="Minimum" <?php echo
$_POST['Measurement']==Minimum?"selected":""; ?>>Minimum</option>
            <option name = "Maximum" value="Maximum" <?php echo
$_POST['Measurement']==Maximum?"selected":""; ?>>Maximum</option>
        </select>

        <b>Phenotype: </b><select name = "Phenotype">
            <option name = "<PHENOTYPE NAME e.g. Age>" value="1" <?php echo
$_POST['Phenotype']==1?"selected":""; ?>>
                <PHENOTYPE NAME e.g. Age (years)></option>
                # Selection options can be added for each phenotype recorded in the
                longitudinal dataset(s). The same structure is followed for each with "value"
                increasing by one each time.
        </select>

        <b>Individuals: </b><select name = "Individual">

```

```

        <option name = "all" value="all" <?php echo
$_POST['Individual']==all?"selected":""; ?>>All</option>
        <option name = "males" value="1" <?php echo
$_POST['Individual']==1?"selected":""; ?>>Males</option>
        <option name = "females" value="2" <?php echo
$_POST['Individual']==2?"selected":""; ?>>Females</option>
    </select>

    <b>Data collection time point: </b><select name = "Year">
        <option name = "<b><NAME OF TIME POINT e.g. 5>" value="1" <?php echo
$_POST['Year']==1?"selected":""; ?>> <b><NAME OF TIME POINT e.g. Year 5></option>
        # Selection options can be added for each data collection time point in the
longitudinal dataset(s). The same structure is followed for each with "value"
increasing by one each time.
    </select>

    <b>Dataset: </b><select name = "Dataset">
        #If more than two datasets exist, they can be added OR if only one dataset exists
this drop-down menu can be removed altogether. Edit code here and below accordingly.
        <option name = "<b><NAME OF DATASET 1>" value="1" <?php echo
$_POST['Dataset']==1?"selected":""; ?>> <b><NAME OF DATASET 1></option>
        <option name = "<b><NAME OF DATASET 2>" value="2" <?php echo
$_POST['Dataset']==2?"selected":""; ?>> <b><NAME OF DATASET 1></option>
    </select>

    <br>
    <br>

    <input type = "submit" value = "Calculate">
    <input type="button" onClick="parent.location='AveMinMax.php'" value="Reset">

```

```

        <br>
        <br>
        <b>OR get summary statistics for specific individuals: </b><input type="button"
onClick="parent.location='AveMinMax_User.php'" value="Specify Individuals">

    </form>

    <br>
    <br>

    <div class = "output">
    <?php

    if ($_SERVER['REQUEST_METHOD'] == 'POST') {

    $Measurement=$_POST["Measurement"];
        if($Measurement=="Average") {
            $Measurement_value="AVG";
            $Measurement_name="average";
        } elseif($Measurement=="Minimum") {
            $Measurement_value="MIN";
            $Measurement_name="minimum";
        } elseif($Measurement=="Maximum") {
            $Measurement_value="MAX";
            $Measurement_name="maximum";
        }
    $Phenotype=$_POST["Phenotype"];
        if ($Phenotype=="1") {
            $Phenotype_value="<PHENOTYPE NAME (as it appears in MySQL database) e.g.
Age>$Year_add";

```

```

        $Phenotype_name="<PHENOTYPE NAME e.g. age>";
        $Phenotype_unit="<PHENOTYPE UNIT OF MEASUREMENT e.g. years>";
    } elseif($Phenotype=="2") {
        #Repeat as above for each phenotype.
    }
$Gender=$_POST["Individual"];
    if($Gender=="1") {
        $Gender_name="males";
    } elseif ($Gender=="2") {
        $Gender_name="females";
    }
$Year=$_POST["Year"];
    if($Year=="1") {
        $Year_value="< changeable_phenotype_data_table_name (for year x)>";
        $Year_name="<year x>";
        $Year_add="<_yrx>";
    } elseif($Year=="2") {
        #Repeat as above for each data collection time point.
    }
$Dataset=$_POST["Dataset"];
    if ($Dataset=="1") {
        $Dataset_value="<unchangeable_phenotype_data_table_name (1)>";
        $Dataset_name="<NAME OF DATASET 1>";
    } elseif($Dataset=="2") {
        $Dataset_value="<unchangeable_phenotype_data_table_name (2)>";
        $Dataset_name="<NAME OF DATASET 2>";
    }
}

#Include the code in italics below if data only exists at one data collection time point for a particular dataset.
if($Year!="5" AND $Dataset=="1") {

```

```

        printf("<strong>There is no data for the<DATASET NAME> at the $Year_name data
collection timepoint.</strong>");
    }

    if($_POST["Individual"]=="all") {

        #Include the code in italics below if data only exists at one data collection time
point for a particular dataset.
        if($Dataset=="1") {

            $sql = "SELECT $Measurement_value($Phenotype_value$Year_add) FROM
$Dataset_value NATURAL JOIN <changeable_phenotype_data_table_name> WHERE
trim($Phenotype_value$Year_add)";

            } else {

                $sql = "SELECT $Measurement_value($Phenotype_value$Year_add) FROM
$Dataset_value NATURAL JOIN $Year_value WHERE trim($Phenotype_value$Year_add)";
            }

            if ($result = $conn->query($sql)) {
                $row = mysqli_fetch_row($result);
                $rounded = round($row[0],3);

                printf("<strong>The $Measurement_name $Phenotype_name of all individuals in the
$Year_name $Dataset_name dataset is $rounded $Phenotype_unit.</strong>");
            }
        } else {

```

#Include the code in italics below if data only exists at one data collection time point for a particular dataset.

if(\$Dataset=="1") {

*\$sql = "SELECT \$Measurement_value(\$Phenotype_value\$Year_add) FROM
\$Dataset_value NATURAL JOIN <changeable_phenotype_data_table_name> WHERE
trim(\$Phenotype_value\$Year_add) AND Gender=\$Gender";*

} else {

*\$sql = "SELECT \$Measurement_value(\$Phenotype_value\$Year_add) FROM
\$Dataset_value NATURAL JOIN \$Year_value WHERE trim(\$Phenotype_value\$Year_add) AND Gender=\$Gender";
}*

*if (\$result = \$conn->query(\$sql)) {
\$row = mysqli_fetch_row(\$result);
\$rounded = round(\$row[0],3);*

*printf("The \$Measurement_name \$Phenotype_name of \$Gender_name in the
\$Year_name \$Dataset_name dataset is \$rounded \$Phenotype_unit.");
}*

}

#Include if a particular dataset only has males or females and an inappropriate selection is made.

*if(\$_POST["Individual"]=="1" AND \$_POST["Dataset"]=="1") {
echo "...wait, there are no <males/females> in <DATASET NAME>!";
}*

\$conn->close();

}

?>

```

        </div>

</body>

<footer>
    <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
    <input type="button" onClick="parent.location='SummaryStatistics.php'" value="Summary
Statistics" class="navigate">
    &emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>' value="<LABEL FOR USEFUL LINK>" class="link">
    #Additional links can be added as required
</footer>

</html>

```

AveMinMax_User.php

```

<html>

    <head>

        <?php
        include("style.html");
        include("sessioncontrol.php");
        include("config.php");
        include("header_2.html");
        ?>

        <title><DATABASE NAME> Database/Summary Statistics/AveMinMax</title>

```

```

</head>

<body>

    <h1><DATABASE NAME> Database</h1>
    <h2>Summary Statistics</h2>
    <h3>Average/Minimum/Maximum</h3>

    <form method = "post" enctype="multipart/form-data">

        <b>Measurement: </b><select name = "Measurement">
            <option name = "Average" value="Average" <?php echo
$_POST['Measurement']==Average?"selected":""; ?>>Average</option>
            <option name = "Minimum" value="Minimum" <?php echo
$_POST['Measurement']==Minimum?"selected":""; ?>>Minimum</option>
            <option name = "Maximum" value="Maximum" <?php echo
$_POST['Measurement']==Maximum?"selected":""; ?>>Maximum</option>
        </select>

        <b>Phenotype: </b><select name = "Phenotype">
            <option name = "<PHENOTYPE NAME e.g. Age>" value="1" <?php echo
$_POST['Phenotype']==1?"selected":""; ?>>
                <PHENOTYPE NAME e.g. Age (years)></option>
            # Selection options can be added for each phenotype recorded in the
            longitudinal dataset(s). The same structure is followed for each with "value"
            increasing by one each time.
        </select>

        <b>Individuals: </b><input type="file" name="Individuals">

```



```
<b>Data collection time point: </b><select name = "Year">
  <option name = "<NAME OF TIME POINT e.g. 5>" value="1" <?php echo
    $_POST['Year']==1?"selected":""; ?>> <NAME OF TIME POINT e.g. Year 5></option>
  # Selection options can be added for each data collection time point in the
    longitudinal dataset(s). The same structure is followed for each with "value"
    increasing by one each time.
</select>
```

```
<b>Dataset: </b><select name = "Dataset">
  #If more than two datasets exist, they can be added OR if only one dataset exists
    this drop-down menu can be removed altogether. Edit code here and below accordingly.
  <option name = "<NAME OF DATASET 1>" value="1" <?php echo
    $_POST['Dataset']==1?"selected":""; ?>> <NAME OF DATASET 1></option>
  <option name = "<NAME OF DATASET 2>" value="2" <?php echo
    $_POST['Dataset']==2?"selected":""; ?>> <NAME OF DATASET 1></option>
</select>
```

```
<br>
<br>
```

```
<input type = "submit" value = "Calculate">
<input type="button" onClick="parent.location='AveMinMax_User.php'" value="Reset">
<input type="button" onClick="parent.location='AveMinMax.php'" value="Back">
```

```
</form>
```

```
<br>
<br>
```

```
<div class = "output">
<?php
```

```

if ($_SERVER['REQUEST_METHOD'] == 'POST') {

$Measurement=$_POST["Measurement"];
    if($Measurement=="Average") {
        $Measurement_value="AVG";
        $Measurement_name="average";
    } elseif($Measurement=="Minimum") {
        $Measurement_value="MIN";
        $Measurement_name="minimum";
    } elseif($Measurement=="Maximum") {
        $Measurement_value="MAX";
        $Measurement_name="maximum";
    }
$Phenotype=$_POST["Phenotype"];
    if ($Phenotype=="1") {
        $Phenotype_value="<PHENOTYPE NAME (as it appears in MySQL database) e.g.
Age>$Year_add";
        $Phenotype_name="<PHENOTYPE NAME e.g. age>";
        $Phenotype_unit="<PHENOTYPE UNIT OF MEASUREMENT e.g. years>";
    } elseif($Phenotype=="2") {
        #Repeat as above for each phenotype.
    }
$Year=$_POST["Year"];
    if($Year=="1") {
        $Year_value="<changeable_phenotype_data_table_name (for year x)>";
        $Year_name="<year x>";
        $Year_add="<_yrx>";
    } elseif($Year=="2") {
        #Repeat as above for each data collection time point.
    }
}

```

```

    }
    $Dataset=$_POST["Dataset"];
    if ($Dataset=="1") {
        $Dataset_value="<unchangeable_phenotype_data_table_name (1)>";
        $Dataset_name="<NAME OF DATASET 1>";
    } elseif($Dataset=="2") {
        $Dataset_value="<unchangeable_phenotype_data_table_name (2)>";
        $Dataset_name="<NAME OF DATASET 2>";
    }

    $myfile = fopen($_FILES["Individuals"]["tmp_name"], "rb") or die("<b>Please upload a
file!</b>");
    $FileType = pathinfo(basename($_FILES["Individuals"]["name"]),PATHINFO_EXTENSION);

    if ($FileType == "txt") {
        while(($content= fgets($myfile)) !==false){
            $content2=trim($content);
            $content3[]="'$content2'";
        }
        $content4=implode(",",$content3);

        fclose($myfile);
    } else {
        echo "<b>Make sure the file you are trying to upload is a text file!</b>";
    }

#Include the code in italics below if data only exists at one data collection time point
for a particular dataset.
    if($FileType == "txt" AND $Year!="5" AND $Dataset=="1") {

```

```
        printf("<strong>There is no data for the <DATASET NAME> at the $Year_name data  
collection timepoint.</strong>");  
    }
```

***#Include the code in italics below if data only exists at one data collection time point
for a particular dataset.***

```
    if($Dataset=="1") {
```

```
        $sql = "SELECT $Measurement_value($Phenotype_value$Year_add) FROM $Dataset_value  
NATURAL JOIN <changeable_phenotype_data_table_name> WHERE trim($Phenotype_value$Year_add) AND  
IndividualID IN ($content4)";
```

```
    } else {
```

```
        $sql = "SELECT $Measurement_value($Phenotype_value$Year_add) FROM $Dataset_value  
NATURAL JOIN $Year_value WHERE trim($Phenotype_value$Year_add) AND IndividualID IN ($content4)";
```

```
    }
```

```
    if ($result = $conn->query($sql)) {  
        $row = mysqli_fetch_row($result);  
        $rounded = round($row[0],3);
```

```
        printf ("<strong>The $Measurement_name $Phenotype_name of the user-specified  
individuals from the $Year_name $Dataset_name dataset is $rounded $Phenotype_unit.</strong>");  
    }
```

```
    $conn->close();
```

```
    }
```

```
    ?>
```

```
</div>
```

```

</body>

<footer>
    <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
    <input type="button" onClick="parent.location='SummaryStatistics.php'" value="Summary
Statistics" class="navigate">
    &emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>' value="<LABEL FOR USEFUL LINK>" class="link">
    #Additional links can be added as required
</footer>

</html>

```

Phenotype Data Download Pages

This page is for the download of phenotype data for individuals (all, male, female or user-specified) matching certain criteria.

PhenotypeData.php

```

<html>

<head>

    <?php
    include("style.html");
    include("sessioncontrol.php");
    include("header_2.html");

```

```

?>

<title><DATABASE NAME> Database/Download Data/Phenotype Data</title>

</head>

<body>

    <h1><DATABASE NAME> Database</h1>
    <h2>Download Data</h2>
    <h3>Phenotype Data</h3>

    <br>

    <form action="PhenotypeData_Dataset1_a.php">
        <input type="submit" value="<NAME OF DATASET 1>">
    </form>

    <form action="PhenotypeData_Dataset2_a.php">
        <input type="submit" value="<NAME OF DATASET 2>">
    </form>

</body>

<footer>
    <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
    <input type="button" onClick="parent.location='DownloadData.php'" value="Download Data"
class="navigate">
    &emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>' value="<LABEL FOR USEFUL LINK>" class="link">

```

```
        #Additional links can be added as required
    </footer>
```

```
</html>
```

For datasets with only one data collection time point:

PhenotypeData_Dataset1_a.php

```
<html>

    <head>

        <?php
            include("style2.html");
            include("sessioncontrol.php");
            include("header_2.html");
            ?>

        <title><DATABASE NAME> Database/Download Data/Phenotype Data/<NAME OF DATASET 1></title>

        <style>
        form {
            width: 700px;
            margin: 0 auto;
        }
        </style>

    </head>
```

```

<body>

    <h1><DATABASE NAME> Database</h1>
    <h2>Download Data</h2>
    <h3>Phenotype Data: <NAME OF DATASET 1></h3>

    <form action="PhenotypeData_Dataset1_b.php" method = "post">

        <b>Individuals:</b> All OR <input type="button"
onClick="parent.location='PhenotypeData_Dataset1_User_a.php'" value="Specify Individuals">

        <br>
        <br>

        <b>Individual/phenotype data to retrieve:</b><br><br>
        <input type = "checkbox" name = "check_list[]" value="*">ALL<br>
        <input type = "checkbox" name = "check_list[]" value="<PHENOTYPE NAME e.g.
Age>"><PHENOTYPE NAME e.g. Age
(years)><br>
        # Checklist options can be added for each phenotype recorded in the dataset.
        The same structure is followed for each.

        <br>
        <br>

        <b>Criteria:</b><select name = "Criteria">
        <option name = "None" value=""disabled selected hidden>Phenotype</option>
        <option name = "<PHENOTYPE NAME e.g. Age>" value="1"> <PHENOTYPE NAME e.g. Age
(years)></option>

```


[illegible]

```

        <option name = "GreaterThanOrEqualTo" value=">=>=</option>
        <option name = "LessThan" value="<"><</option>
        <option name = "LessThanOrEqualTo" value="<="><=</option>
    </select>

    <input type="number" step="any" name="CriteriaValue3" placeholder="Enter value">

    <br>
    <br>

    <input type = "submit" name = "submit" value = "Print to screen">
    <input type = "submit" name = "submit" value = "Save to file (.csv)">
    <input type="reset" name="reset" value="Reset">

    </form>

</body>

<footer>
    <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
    <input type="button" onClick="parent.location='DownloadData.php'" value="Download Data"
class="navigate">
    <input type="button" onClick="parent.location='PhenotypeData.php'" value="Phenotype Data"
class="navigate">
    &emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
    OF USEFUL LINK>'" value="<LABEL FOR USEFUL LINK>" class="link">
    #Additional links can be added as required
</footer>

</html>

```

PhenotypeData_Dataset1_b.php

```
<html>

    <?php
    include("style2.html");
    include("sessioncontrol.php");
    include("config.php");
    ?>

    <style>
    table, th, td {
        border: 1px solid black;
        border-collapse: collapse;
        text-align: center;
        padding: 5px;
    }
    </style>

    <body>

        <?php

        $Phenotype_info=implode(",",$_POST["check_list"]);
        $Criteria=$_POST["Criteria"];
        if ($Criteria=="1") {
            $Criteria_value="<PHENOTYPE NAME e.g. Age>";
        } elseif($Criteria=="2") {
            #Repeat as above for each phenotype.
        }
        $Operator=$_POST["Operator"];
```

```

$CriteriaValue=$_POST["CriteriaValue"];
$Criteria2=$_POST["Criteria2"];
    if ($Criteria2=="1") {
        $Criteria2_value="<PHENOTYPE NAME e.g. Age>";
    } elseif($Criteria2=="2") {
        #Repeat as above for each phenotype.
    }
$Operator2=$_POST["Operator2"];
$CriteriaValue2=$_POST["CriteriaValue2"];
$Criteria3=$_POST["Criteria3"];
    if ($Criteria3=="1") {
        $Criteria3_value="<PHENOTYPE NAME e.g. Age>";
    } elseif($Criteria3=="2") {
        #Repeat as above for each phenotype.
    }
$Operator3=$_POST["Operator3"];
$CriteriaValue3=$_POST["CriteriaValue3"];
$Retrieve=$_POST["submit"];

if($_POST["Criteria"]=="") {
    $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name (1)>
NATURAL JOIN <changeable_phenotype_data_table_name (1)>";
} else {
    $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name (1)>
NATURAL JOIN <changeable_phenotype_data_table_name (1)> WHERE $Criteria_value $Operator
$CriteriaValue $Criteria2_value $Operator2 $CriteriaValue2 $Criteria3_value $Operator3
$CriteriaValue3";
}

$result = $conn->query($sql);

```

```

include("print_or_save.php");

if (!isset($Phenotype_info)) {
    echo "Make sure you have selected some options of what to retrieve!";
} else {
    $row_cnt = $result->num_rows;
    echo "<strong>$row_cnt result(s) matched the selected criteria</strong><br><br>";
    echo '</table>';
}

$conn->close();
?>

</body>

</html>

```

PhenotypeData_Dataset1_User_a.php

```

<html>

<head>

    <?php
    include("style2.html");
    include("sessioncontrol.php");
    include("header_2.html");
    ?>

    <title><DATABASE NAME> Database/Download Data/Phenotype Data/<NAME OF DATASET 1></title>

```

```

<style>
form {
    width: 500px;
    margin: 0 auto;
}
</style>

</head>

<body>

<h1><DATABASE NAME> Database</h1>
<h2>Download Data</h2>
<h3>Phenotype Data: <NAME OF DATASET 1></h3>

<form action="PhenotypeData_Dataset1_User_b.php" method = "post" enctype="multipart/form-
data">

    <b>Individuals: </b><input type="text" name="Individuals" placeholder="Enter
Individual ID"> OR <input type="file" name="Individuals">

    <br>
    <br>

    <b>Individual/phenotype data to retrieve: </b><br><br>
    <input type = "checkbox" name = "check_list[]" value="*">ALL<br>
    <input type = "checkbox" name = "check_list[]" value="<PHENOTYPE NAME e.g.
Age>"><PHENOTYPE NAME e.g. Age
(years)><br>
    # Checklist options can be added for each phenotype recorded in the dataset.

```

The same structure is followed for each.

```
<br>
<br>

<input type = "submit" name = "submit" value = "Print to screen">
<input type = "submit" name = "submit" value = "Save to file (.csv)">
<input type="reset" name="reset" value="Reset">
<input type="button" onClick="parent.location='PhenotypeData_FCG_a.php'"
value="Back">

    </form>

</body>

<footer>
    <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
    <input type="button" onClick="parent.location='DownloadData.php'" value="Download Data"
class="navigate">
    <input type="button" onClick="parent.location='PhenotypeData.php'" value="Phenotype Data"
class="navigate">
    &emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>'" value="<LABEL FOR USEFUL LINK>" class="link">
    #Additional links can be added as required
</footer>

</html>
```


PhenotypeData_Dataset1_User_b.php

```
<html>

    <?php
    include("style2.html");
    include("sessioncontrol.php");
    include("config.php");
    ?>

    <style>
    table, th, td {
        border: 1px solid black;
        border-collapse: collapse;
        text-align: center;
        padding: 5px;
    }
    </style>

    <body>

        <?php

        $Phenotype_info=implode(",",$_POST["check_list"]);
        $Retrieve=$_POST["submit"];

        $myfile = fopen($_FILES["Individuals"]["tmp_name"], "rb");
        $FileType = pathinfo(basename($_FILES["Individuals"]["name"]),PATHINFO_EXTENSION);

        if($_POST["Individuals"]=="" AND file_exists($_FILES["Individuals"]["tmp_name"])) {
```

```

if ($FileType == "txt") {

    while(($content= fgets($myfile)) !==false){
        $content2=trim($content);
        $content3[]="'$content2'";
    }
    $content4=implode(",",$content3);

    fclose($myfile);

    $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name
(1)> NATURAL JOIN <changeable_phenotype_data_table_name (1)> WHERE IndividualID IN ($content4)";

    } else {
        echo "Make sure the file you are trying to upload is a text file!";
    }

} elseif($_POST["Individuals"]!="" AND !file_exists($_FILES["Individuals"]["tmp_name"])) {

    $Individuals=$_POST["Individuals"];
    $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name (1)>
NATURAL JOIN <changeable_phenotype_data_table_name (1)> WHERE IndividualID IN ('$Individuals')";
    }

$result = $conn->query($sql);

include("print_or_save.php");

$row_cnt = $result->num_rows;

if($_POST["Individuals"]=="" AND !file_exists($_FILES["Individuals"]["tmp_name"])) {

```

```

        echo "Please specify either a single individual ID or upload a file of individual
IDs.";

        } elseif($_POST["Individuals"]!=" " AND file_exists($_FILES["Individuals"]["tmp_name"])) {
            echo "Please specify either a single individual ID or upload a file of individual IDs
(not both).";

        } elseif (($_POST["Individuals"]!=" " OR file_exists($_FILES["Individuals"]["tmp_name"]))
AND !isset($Phenotype_info)) {
            echo "Make sure you have selected some options of what to retrieve!";

        } elseif ($row_cnt>0 AND isset($Phenotype_info)) {
            echo "<strong>$row_cnt result(s) matched the selected criteria</strong><br><br>";
            echo '</table>';

        } elseif ($row_cnt==0) {
            echo "<strong>0 result(s) matched the selected criteria</strong><br><br>";
        }

        $conn->close();
    ?>

</body>

</html>

```

For datasets with multiple data collection time points:

PhenotypeData_Dataset2_a.php

```
<html>

    <head>

        <?php
        include("style2.html");
        include("sessioncontrol.php");
        include("header_2.html");
        ?>

        <title><DATABASE NAME> Database/Download Data/Phenotype Data/<NAME OF DATASET 2></title>

        <style>
        form {
            width: 950px;
            margin: 0 auto;
        }
        table, th {
            border: 1px solid black;
            border-collapse: collapse;
            text-align: center;
            padding: 5px;
        }
        td {
            border: 1px solid black;
            border-collapse: collapse;
            text-align: left;
```

```

padding: 5px;
}
</style>

</head>

<body>

<h1><DATABASE NAME> Database</h1>
<h2>Download Data</h2>
<h3>Phenotype Data: <NAME OF DATASET 2></h3>

<form action="PhenotypeData_Dataset2_b.php" method = "post">

    <b>Individuals:</b><select name = "Individual">
        <option name = "all" value="all">All</option>
        <option name = "males" value="1">Males</option>
        <option name = "females" value="2">Females</option>
    </select>

    OR <input type="button" onClick="parent.location='PhenotypeData_Dataset2_User_a.php'"
value="Specify Individuals">

    <br>
    <br>

    <b>Individual/phenotype data to retrieve:</b><br><br>
        <input type = "checkbox" name = "check_list[]" value="*">ALL<br>
        <input type = "checkbox" name = "check_list[]" value="<PHENOTYPE NAME e.g.
IndividualID">><PHENOTYPE NAME e.g.
Individual ID><br>

```

Checklist options can be added for each unchangeable phenotype recorded in the dataset. The same structure is followed for each.

```

<table>

  <tr>
    <th rowspan="2">PHENOTYPE</th>
    <th colspan="2"><NO. OF DATA COLLECTION TIME POINTS>>DATA COLLECTION
    TIME POINT</th>
  </tr>

  <tr>
    <th>ALL</th>
    <th>Year x</th>
    # Repeat for each data collection time point year
  </tr>
  <tr>
    <td><PHENOTYPE NAME e.g. Age (years)></td>
    <th><input type = "checkbox" name = "check_list[]" value="<PHENOTYPE
    NAME e.g. Age>_yrx,<br>
    <PHENOTYPE NAME e.g. Age>_yrz,#These are the column headings -
    include each time point for the "ALL" option</td>
    <th><input type = "checkbox" name = "check_list[]" value="<PHENOTYPE
    NAME e.g. Age>_yrx"></th>
    #Repeat for each data collection time point. The same structure is
    followed for each.
  </tr>

  <tr>

    #Repeat as above for each phenotype recorded in the dataset.

```

```

        </table>

<br>
<br>

<b>Criteria:</b><select name = "Year">
    <option name = "None" value=""disabled selected hidden>Data collection time
point</option>

    <option name = "<NAME OF TIME POINT e.g. 5>" value="1"> <NAME OF TIME POINT
e.g. Year 5></option>
    # Selection options can be added for each data collection time point in the
longitudinal dataset(s). The same structure is followed for each with "value"
increasing by one each time.
</select>

</b><select name = "Criteria">
    <option name = "None" value=""disabled selected hidden>Phenotype</option>
    <option name = "<PHENOTYPE NAME e.g. Age>" value="1"> <PHENOTYPE NAME e.g. Age
(years)></option>
    # Selection options can be added for each phenotype recorded in the
longitudinal dataset(s). The same structure is followed for each with "value"
increasing by one each time.
</select>

<select name = "Operator">
    <option name = "None" value=""disabled selected hidden>Operator</option>
    <option name = "EqualTo" value="=">=</option>
    <option name = "GreaterThan" value=">">></option>
    <option name = "GreaterThanOrEqualTo" value=">=">=></option>
    <option name = "LessThan" value="<"><</option>

```


[illegible]

Selection options can be added for each phenotype recorded in the longitudinal dataset(s). The same structure is followed for each with "value" increasing by one each time.

</select>

<select name = "Operator3">

<option name = "None" value="" disabled selected hidden>Operator</option>

<option name = "EqualTo" value="">=</option>

<option name = "GreaterThan" value="">></option>

<option name = "GreaterThanOrEqualTo" value="">=></option>

<option name = "LessThan" value=""><</option>

<option name = "LessThanOrEqualTo" value="">=<</option>

</select>

<input type="number" step="any" name="CriteriaValue3" placeholder="Enter value">

<input type = "submit" name = "submit" value = "Print to screen">

<input type = "submit" name = "submit" value = "Save to file (.csv)">

<input type="reset" name="reset" value="Reset">

</form>

</body>

<footer>

<input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">

```

        <input type="button" onClick="parent.location='DownloadData.php'" value="Download Data"
class="navigate">
        <input type="button" onClick="parent.location='PhenotypeData.php'" value="Phenotype Data"
class="navigate">
        &emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>'" value="<LABEL FOR USEFUL LINK>" class="link">
        #Additional links can be added as required
    </footer>

</html>

```

PhenotypeData_Dataset2_b.php

```

<html>

    <?php
    include("style2.html");
    include("sessioncontrol.php");
    include("config.php");
    ?>

    <style>
    table, th, td {
        border: 1px solid black;
        border-collapse: collapse;
        text-align: center;
        padding: 5px;
    }
    </style>

```

<body>

<?php

```
$Gender=$_POST["Individual"];
    if($Gender=="1") {
        $Gender_name="males";
    } elseif ($Gender=="2") {
        $Gender_name="females";
    }

$Phenotype_info=implode(",",$_POST["check_list"]);

$Year=$_POST["Year"];
    if($Year=="1") {
        $Year_add="_yrx";
    } elseif($Year=="2") {
        #Repeat as above for each data collection time point.
    }

$criteria=$_POST["Criteria"];
    if ($criteria=="1") {
        $criteria_value="<PHENOTYPE NAME e.g. Age>";
    } elseif($criteria=="2") {
        #Repeat as above for each phenotype.
    }

$Operator=$_POST["Operator"];
$criteriaValue=$_POST["CriteriaValue"];
$Year2=$_POST["Year2"];
    if($Year2=="1") {
        $Year2_add="_yrx";
    } elseif($Year2=="2") {
```

```

        #Repeat as above for each data collection time point.
    }
    $Criteria2=$_POST["Criteria2"];
    if ($Criteria2=="1") {
        $Criteria2_value="<PHENOTYPE NAME e.g. Age>";
    } elseif($Criteria2=="2") {
        #Repeat as above for each phenotype.
    }
    $Operator2=$_POST["Operator2"];
    $CriteriaValue2=$_POST["CriteriaValue2"];
    $Year3=$_POST["Year3"];
    if($Year3=="1") {
        $Year3_add="_yrx";
    } elseif($Year3=="2") {
        #Repeat as above for each data collection time point.
    }
    $Criteria3=$_POST["Criteria3"];
    if ($Criteria3=="1") {
        $Criteria3_value="<PHENOTYPE NAME e.g. Age>";
    } elseif($Criteria3=="2") {
        #Repeat as above for each phenotype.
    }
    $Operator3=$_POST["Operator3"];
    $CriteriaValue3=$_POST["CriteriaValue3"];
    $Retrieve=$_POST["submit"];

    if($_POST["Criteria"]==" " AND $_POST["Criteria2"]==" " AND $_POST["Criteria3"]==" ") {

        if($_POST["Individual"]=="all") {
            $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name
(2)> NATURAL JOIN <changeable_phenotype_data_table_name (2) (yrx)> NATURAL JOIN

```

```
<changeable_phenotype_data_table_name (2) (yrz) NATURAL JOIN....<#Include changeable phenotype data tables for all years separated by NATURAL JOIN >";
```

```
    } else {  
        $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name  
(2)> NATURAL JOIN <changeable_phenotype_data_table_name (2) (yrx)> NATURAL JOIN  
<changeable_phenotype_data_table_name (2) (yrz) NATURAL JOIN....<#Include changeable phenotype data tables for all years separated by NATURAL JOIN > WHERE Gender=$Gender";
```

```
    }
```

```
    } elseif($_POST["Criteria2"]==" AND $_POST["Criteria3"]=="") {
```

```
        if($_POST["Individual"]=="all") {  
            $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name  
(2)> NATURAL JOIN <changeable_phenotype_data_table_name (2) (yrx)> NATURAL JOIN  
<changeable_phenotype_data_table_name (2) (yrz) NATURAL JOIN....<#Include changeable phenotype data tables for all years separated by NATURAL JOIN > WHERE $Criteria_value$Year_add $Operator  
$CriteriaValue";
```

```
        } else {  
            $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name  
(2)> NATURAL JOIN <changeable_phenotype_data_table_name (2) (yrx)> NATURAL JOIN  
<changeable_phenotype_data_table_name (2) (yrz) NATURAL JOIN....<#Include changeable phenotype data tables for all years separated by NATURAL JOIN > WHERE Gender=$Gender AND $Criteria_value$Year_add  
$Operator $CriteriaValue";
```

```
        }
```

```
    } elseif($_POST["Criteria3"]=="") {
```

```
        if($_POST["Individual"]=="all") {
```

```
        $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name  
(2)> NATURAL JOIN <changeable_phenotype_data_table_name (2) (yrx)> NATURAL JOIN  
<changeable_phenotype_data_table_name (2) (yrz) NATURAL JOIN....<#Include changeable phenotype data  
tables for all years separated by NATURAL JOIN > WHERE $Criteria_value$Year_add $Operator  
$CriteriaValue $Criteria2_value$Year2_add $Operator2 $CriteriaValue2";
```

```
    } else {  
        $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name  
(2)> NATURAL JOIN <changeable_phenotype_data_table_name (2) (yrx)> NATURAL JOIN  
<changeable_phenotype_data_table_name (2) (yrz) NATURAL JOIN....<#Include changeable phenotype data  
tables for all years separated by NATURAL JOIN > WHERE Gender=$Gender AND $Criteria_value$Year_add  
$Operator $CriteriaValue $Criteria2_value$Year2_add $Operator2 $CriteriaValue2";
```

```
    }  
} else {
```

```
    if($_POST["Individual"]=="all") {  
        $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name  
(2)> NATURAL JOIN <changeable_phenotype_data_table_name (2) (yrx)> NATURAL JOIN  
<changeable_phenotype_data_table_name (2) (yrz) NATURAL JOIN....<#Include changeable phenotype data  
tables for all years separated by NATURAL JOIN > WHERE $Criteria_value$Year_add $Operator  
$CriteriaValue $Criteria2_value$Year2_add $Operator2 $CriteriaValue2 $Criteria3_value$Year3_add  
$Operator3 $CriteriaValue3";
```

```
    } else {  
        $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name  
(2)> NATURAL JOIN <changeable_phenotype_data_table_name (2) (yrx)> NATURAL JOIN  
<changeable_phenotype_data_table_name (2) (yrz) NATURAL JOIN....<#Include changeable phenotype data  
tables for all years separated by NATURAL JOIN > WHERE Gender=$Gender AND $Criteria_value$Year_add  
$Operator $CriteriaValue $Criteria2_value$Year2_add $Operator2 $CriteriaValue2  
$Criteria3_value$Year3_add $Operator3 $CriteriaValue3";
```

```

        }
    }
    $result = $conn->query($sql);

    include("print_or_save.php");

    if (!isset($Phenotype_info)) {
        echo "Make sure you have selected some options of what to retrieve!";
    } else {
        $row_cnt = $result->num_rows;
        echo "<strong>$row_cnt result(s) matched the selected criteria</strong><br><br>";
        echo '</table>';
    }

    $conn->close();
?>

</body>

</html>

```

PhenotypeData_Dataset2_User_a.php

```

<html>

    <head>

        <?php
        include("style2.html");

```



```
include("sessioncontrol.php");
include("header_2.html");
?>
```

```
<title><DATABASE NAME> Database/Download Data/Phenotype Data/<NAME OF DATASET 2></title>
```

```
<style>
form {
    width: 950px;
    margin: 0 auto;
}
table, th {
    border: 1px solid black;
    border-collapse: collapse;
    text-align: center;
    padding: 5px;
}
td {
    border: 1px solid black;
    border-collapse: collapse;
    text-align: left;
    padding: 5px;
}
</style>
```

```
</head>
```

```
<body>
```

```
<h1><DATABASE NAME> Database</h1>
<h2>Download Data</h2>
```

<h3>Phenotype Data: <NAME OF DATASET 2</h3>

<form action="PhenotypeData_Dataset2_User_b.php" method = "post" enctype="multipart/form-data">

Individuals: <input type="text" name="Individuals" placeholder="Enter Individual ID"> OR <input type="file" name="Individuals">

Individual/phenotype data to retrieve:

<input type = "checkbox" name = "check_list[]" value="*">ALL

<input type = "checkbox" name = "check_list[]" value="<PHENOTYPE NAME e.g.

IndividualID"><PHENOTYPE NAME e.g.

Individual ID">

Checklist options can be added for each unchangeable phenotype recorded in the dataset. The same structure is followed for each.

<table>

<tr>

<th rowspan="2">PHENOTYPE</th>

<th colspan="<NO. OF DATA COLLECTION TIME POINTS">DATA COLLECTION

TIME POINT</th>

</tr>

<tr>

<th>ALL</th>

<th>Year x</th>

```

        # Repeat for each data collection time point year
    </tr>
    <tr>
        <td><PHENOTYPE NAME e.g. Age (years)></td>
        <th><input type = "checkbox" name = "check_list[]" value="<PHENOTYPE
NAME e.g. Age>_yrx,
        <PHENOTYPE NAME e.g. Age>_yrz, #These are the column headings -
include each time point for the "ALL" option</td>
        <th><input type = "checkbox" name = "check_list[]" value="<PHENOTYPE
NAME e.g. Age>_yrx"></th>
        #Repeat for each data collection time point. The same structure is
followed for each.
    </tr>

    #Repeat as above for each phenotype recorded in the dataset.

</table>

<br>
<br>

<input type = "submit" name = "submit" value = "Print to screen">
<input type = "submit" name = "submit" value = "Save to file (.csv)">
<input type="reset" name="reset" value="Reset">
<input type="button" onClick="parent.location='PhenotypeData_Dataset2_a.php'"
value="Back">

    </form>

</body>

```

```

        <footer>
            <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
            <input type="button" onClick="parent.location='DownloadData.php'" value="Download Data"
class="navigate">
            <input type="button" onClick="parent.location='PhenotypeData.php'" value="Phenotype Data"
class="navigate">
            &emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>' value="<LABEL FOR USEFUL LINK>" class="link">
            #Additional links can be added as required
        </footer>

</html>

```

PhenotypeData_Dataset2_User_b.php

```

<html>

    <?php
    include("style2.html");
    include("sessioncontrol.php");
    include("config.php");
    ?>

    <style>
    table, th, td {
        border: 1px solid black;
        border-collapse: collapse;
        text-align: center;
    }

```

```

padding: 5px;
}
</style>

<body>

    <?php

        $Phenotype_info=implode(",",$_POST["check_list"]);
        $Retrieve=$_POST["submit"];

        $myfile = fopen($_FILES["Individuals"]["tmp_name"], "rb");
        $FileType = pathinfo(basename($_FILES["Individuals"]["name"]),PATHINFO_EXTENSION);

        if($_POST["Individuals"]=="" AND file_exists($_FILES["Individuals"]["tmp_name"])) {

            if ($FileType == "txt") {

                while(($content= fgets($myfile)) !==false){
                    $content2=trim($content);
                    $content3[]="'$content2'";
                }
                $content4=implode(",",$content3);

                fclose($myfile);

                $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name
(2)> NATURAL JOIN <changeable_phenotype_data_table_name (2)(yrx)> NATURAL JOIN
<changeable_phenotype_data_table_name (2)(yrz)> NATURAL JOIN....<#Include changeable phenotype data
tables for all years separated by NATURAL JOIN > WHERE IndividualID IN ($content4)";

```

```

        } else {
            echo "Make sure the file you are trying to upload is a text file!";
        }
    }

    if($_POST["Individuals"]!=" " AND !file_exists($_FILES["Individuals"]["tmp_name"])) {

        $Individuals=$_POST["Individuals"];
        $sql = "SELECT $Phenotype_info FROM <unchangeable_phenotype_data_table_name (2)>
NATURAL JOIN <changeable_phenotype_data_table_name (2) (yrx)> NATURAL JOIN
<changeable_phenotype_data_table_name (2) (yrz)> NATURAL JOIN....<#Include changeable phenotype data
tables for all years separated by NATURAL JOIN > WHERE IndividualID IN ('$Individuals')";
    }

    $result = $conn->query($sql);

    include("print_or_save.php");

    $row_cnt = $result->num_rows;

    if($_POST["Individuals"]==" " AND !file_exists($_FILES["Individuals"]["tmp_name"])) {
        echo "Please specify either a single individual ID or upload a file of individual
IDs.";

        } elseif($_POST["Individuals"]!=" " AND file_exists($_FILES["Individuals"]["tmp_name"])) {
            echo "Please specify either a single individual ID or upload a file of individual IDs
(not both).";

            } elseif (($_POST["Individuals"]!=" " OR file_exists($_FILES["Individuals"]["tmp_name"]))
AND !isset($Phenotype_info)) {
                echo "Make sure you have selected some options of what to retrieve!";
    }

```

```

        } elseif ($row_cnt>0 AND isset($Phenotype_info)) {
            echo "<strong>$row_cnt result(s) matched the selected criteria</strong><br><br>";
            echo '</table>';

        } elseif ($row_cnt==0) {
            echo "<strong>0 result(s) matched the selected criteria</strong><br><br>";
        }

        $conn->close();
    ?>

</body>

</html>

```

SNP Data Download Page

This page is for the download of annotation data related to any of the SNPs in the study.

SNPData_a.php

```

<html>

<head>

    <?php
    include("style2.html");
    include("sessioncontrol.php");

```

```

include("header_2.html");
?>

<title><DATABASE NAME> Database/Download Data/SNP Data</title>

<style>
form {
    width: 700px;
    margin: 0 auto;
}
</style>

</head>

<body>

<h1><DATABASE NAME> Database</h1>
<h2>Download Data</h2>
<h3>SNP Data</h3>

<form action = "SNPData_b.php" method="post" enctype="multipart/form-data">

    <b>Filter by:</b><select name = "Filter">
        #All/some of these options may be included in addition to others
        <option name = "SNPID36" value="1">Build 36 SNP ID</option>
        <option name = "SNPID37" value="2">Build 37 SNP ID</option>
        <option name = "BP36" value="3">Build 36 base pair position</option>
        <option name = "BP37" value="4">Build 37 base pair position</option>
        <option name = "Gene" value="5">Gene</option>
        <option name = "Chromosome" value="6">Chromosome</option>
        <option name = "LocationWithinGene" value="7">Location within gene</option>

```



```

        </select>

        <input type="text" name="Filter2" placeholder="Enter value"> OR <input type="file"
name="Filter2">

        <br>
        <br>

        <b>SNP-related information to retrieve:</b><br><br>
        #All/some of these options may be included in addition to others. The "AfterQC"
option indicates whether the SNP remained after QC.
        <input type = "checkbox" name = "check_list[]" value="*">ALL<br>
        <input type = "checkbox" name = "check_list[]" value="SNPID36">Build 36 SNP
ID<br>
        <input type = "checkbox" name = "check_list[]" value="SNPID37">Build 37 SNP
ID<br>
        <input type = "checkbox" name = "check_list[]"
value="Chromosome">Chromosome<br>
        <input type = "checkbox" name = "check_list[]" value="BasePairPosition36">Build
36 base pair position<br>
        <input type = "checkbox" name = "check_list[]" value="BasePairPosition37">Build
37 base pair position<br>
        <input type = "checkbox" name = "check_list[]" value="NearestGene">Nearest
gene<br>
        <input type = "checkbox" name = "check_list[]"
value="LocationWithinGene">Location within gene<br>
        <input type = "checkbox" name = "check_list[]" value="Allele1">Allele 1<br>
        <input type = "checkbox" name = "check_list[]" value="Allele2">Allele 2<br>
        <input type = "checkbox" name = "check_list[]" value="AfterQC">After QC

        <br>

```

```

        <br>

        <input type = "submit" name = "submit" value = "Print to screen">
        <input type = "submit" name = "submit" value = "Save to file (.csv)">
        <input type="reset" name="reset" value="Reset">

    </form>

</body>

<footer>
    <input type="button" onClick="parent.location='TitlePage.php'" value="Home"
class="navigate">
    <input type="button" onClick="parent.location='DownloadData.php'" value="Download Data"
class="navigate">
    &emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>'" value="<LABEL FOR USEFUL LINK>" class="link">
    #Additional links can be added as required
</footer>

</html>

```

SNPData_b.php

```

<html>

    <?php
    include("style2.html");
    include("sessioncontrol.php");
    include("config.php");

```

```
?>
```

```
<style>
table, th, td {
    border: 1px solid black;
    border-collapse: collapse;
    text-align: center;
    padding: 5px;
}
</style>
```

```
<body>
```

```
<?php
```

```
$Filter=$_POST["Filter"];
    if ($Filter=="1") {
        $Filter_value="SNPID36";
    } elseif ($Filter=="2") {
        $Filter_value="SNPID37";
    } elseif ($Filter=="3") {
        $Filter_value="BasePairPosition36";
    } elseif ($Filter=="4") {
        $Filter_value="BasePairPosition37";
    } elseif ($Filter=="5") {
        $Filter_value="NearestGene";
    } elseif ($Filter=="6") {
        $Filter_value="Chromosome";
    } elseif ($Filter=="7") {
        $Filter_value="LocationWithinGene";
    }
}
```

```

$SNPinfo=implode(",",$_POST["check_list"]);
$Retrieve=$_POST["submit"];

$myfile = fopen($_FILES["Filter2"]["tmp_name"], "rb");
$FileType = pathinfo(basename($_FILES["Filter2"]["name"]),PATHINFO_EXTENSION);

if($_POST["Filter2"]=="" AND file_exists($_FILES["Filter2"]["tmp_name"])) {

    if ($FileType == "txt") {

        if($Filter_value=="NearestGene") {

            while(($content= fgets($myfile)) !==false){
                $content2=trim($content);
                $content3[]=$content2";
            }
            $content4=implode("|",$content3);

            fclose($myfile);
            $sql = "SELECT $SNPinfo FROM <SNP_information/annotation_data_table_name>
WHERE $Filter_value
            REGEXP'$content4'";

        } else {

            while(($content= fgets($myfile)) !==false){
                $content2=trim($content);
                $content3[]=$content2'";
            }
            $content4=implode(",",$content3);

```

```

        fclose($myfile);
        $sql = "SELECT $SNPinfo FROM <SNP_information/annotation_data_table_name>
WHERE $Filter_value IN
        ($content4)";
    }
    } else {
        echo "Make sure the file you are trying to upload is a text file!";
    }
}

if($_POST["Filter2"]!=" " AND !file_exists($_FILES["Filter2"]["tmp_name"])) {

    $Filter2=$_POST["Filter2"];
    if($Filter_value=="NearestGene") {
        $sql = "SELECT $SNPinfo FROM <SNP_information/annotation_data_table_name> WHERE
        $Filter_value LIKE ('%$Filter2%')";
    } else {
        $sql = "SELECT $SNPinfo FROM <SNP_information/annotation_data_table_name> WHERE
        $Filter_value IN ('$Filter2')";
    }
}

$result = $conn->query($sql);

include("print_or_save.php");

$row_cnt = $result->num_rows;

if($_POST["Filter2"]==" " AND !file_exists($_FILES["Filter2"]["tmp_name"])) {
    echo "Please specify either a single SNP-related filter value or upload a file of
SNP-related filter values.";
}

```

```
        } elseif($_POST["Filter2"]!=" " AND file_exists($_FILES["Filter2"]["tmp_name"])) {
            echo "Please specify either a single SNP-related filter value or upload a file of
SNP-related filter values (not both).";

        } elseif ((($_POST["Filter2"]!=" " OR file_exists($_FILES["Individuals"]["tmp_name"])) AND
!isset($SNPinfo)) {
            echo "Make sure you have selected some options of what to retrieve!";

        } elseif ($row_cnt>0 AND isset($SNPinfo)) {
            echo "<strong>$row_cnt result(s) matched the selected criteria</strong><br><br>";
            echo '</table>';

        } elseif ($row_cnt==0) {
            echo "<strong>0 result(s) matched the selected criteria</strong><br><br>";
        }

        $conn->close();
    ?>

</body>

</html>
```

Association Analysis Data Download Page

This page is for querying the stored association analysis results from the project. Users can search for results for various phenotypes and can filter on p-values or SNPs/genes.

AssociationData_a.php

```
<html>

    <head>

        <?php
        include("style2.html");
        include("sessioncontrol.php");
        include("header_2.html");
        ?>

        <title><DATABASE NAME> Database/Download Data/Association Analysis Data</title>

        <style>
        form {
            width: 650px;
            margin: 0 auto;
        }
        </style>

    </head>

    <body>
```

```
<h1><DATABASE NAME> Database</h1>
<h2>Download Data</h2>
<h3>Association Analysis Data</h3>
```

```
<form action = "AssociationData_b.php" method="post" enctype="multipart/form-data">
```

```

    <b>Dataset:</b><select name="Dataset"><br>
        <option name = "All" value="1">All datasets<br>
        <option name = "<NAME OF DATASET/SUBSET>" value="2"><NAME OF
DATASET/SUBSET><br>
        #Include options for all datasets and then each individual dataset/subset of
the dataset with which analysis was carried out. The same structure is followed
for each with "value" increasing by one each time.
    </select>

    <br>
    <br>

    <b>Association analysis-related information to retrieve:</b><br><br>
        #All/some of these options may be included in addition to others. If results
for only one dataset exist, the "Dataset" option can be removed.
        <input type = "checkbox" name = "check_list[]" value="*">ALL<br>
        <input type = "checkbox" name = "check_list[]" value="SNPID36">Build 36 SNP
ID<br>
        <input type = "checkbox" name = "check_list[]" value="Dataset">Dataset<br>
        <input type = "checkbox" name = "check_list[]" value="Phenotype">Phenotype<br>
        <input type = "checkbox" name = "check_list[]"
value="P_valueUncorrected">Uncorrected P-value<br>
        <input type = "checkbox" name = "check_list[]"
value="Beta_ORUncorrected">Uncorrected Beta/OR<br>
```



```

        <input type = "checkbox" name = "check_list[]"
value="P_valueCorrected">Corrected P-value<br>
        <input type = "checkbox" name = "check_list[]"
value="Beta_ORCorrected">Corrected Beta/OR<br>
        <input type = "checkbox" name = "check_list[]" value="Covariate1">Covariate
1<br>
        <input type = "checkbox" name = "check_list[]" value="Covariate2">Covariate
2<br>
        <input type = "checkbox" name = "check_list[]" value="Covariate3">Covariate
3<br>

<br>

<b>Phenotype:</b><br><br>
        <input type = "checkbox" name = "check_list2[]" value="'<PHENOTYPE NAME (as it
appears in the MySQL database tables)>'"><PHENOTYPE NAME><br>
        # Checklist options can be added for each phenotype recorded in the dataset.
        The same structure is followed for each.
<br>

<b>Filter by (select one or both):</b><br><br>

(1) SNP/gene: <select name = "Filter">
        <option name = "None" value="">No filter</option>
        <option name = "SNPID36" value="1">Build 36 SNP ID</option>
        <option name = "SNPID37" value="2">Build 37 SNP ID</option>
        <option name = "Gene" value="3">Gene</option>
</select>

<input type="text" name="Filter2" placeholder="Enter value"> OR <input type="file"
name="Filter2">

```

```

<br>
<br>

(2) P-value threshold:<select name = "P-value_name">
    <option name = "Uncorrected" value="1">Uncorrected</option>
    <option name = "Corrected" value="2">Corrected</option>
</select>

<

<select name = "P-value_number">
    <option name = "0" value="1">No threshold</option>
    <option name = "1x10-3" value="2">1x103</option>
    <option name = "1x10-4" value="3">1x104</option>
    <option name = "1x10-5" value="4">1x105</option>
    <option name = "1x10-6" value="5">1x106</option>
    <option name = "1x10-7" value="6">1x107</option>
    <option name = "1x10-8" value="7">1x108</option>
</select>

<br>
<br>

<input type = "submit" name = "submit" value = "Print to screen">
<input type = "submit" name = "submit" value = "Save to file (.csv)">
<input type="reset" name="reset" value="Reset">

</form>

</body>

```

```

        <footer>
            <input type="button" onClick="parent.location='TitlePage.php'"
value="Home" class="navigate">
            <input type="button" onClick="parent.location='DownloadData.php'" value="Download Data"
class="navigate">
            &emsp;&emsp;&emsp;<b>Useful links: </b><input type="button" onClick="parent.location='<URL
OF USEFUL LINK>' value="<LABEL FOR USEFUL LINK>" class="link">
            #Additional links can be added as required
        </footer>

</html>

```

AssociationData_b.php

```

<html>

    <?php
    include("style2.html");
    include("sessioncontrol.php");
    include("config.php");
    ?>

    <style>
    table, th, td {
        border: 1px solid black;
        border-collapse: collapse;
        text-align: center;
        padding: 5px;
    }

```

</style>

<body>

<?php

```
$Dataset=$_POST["Dataset"];
    if ($Dataset=="1") {
        $Dataset_value="ALL";
    } elseif ($Dataset=="2") {
        $Dataset_value="'<NAME OF DATASET/SUBSET>'";
        $Dataset_table="<SNP_association_data_table_name>";
        #Repeat for each dataset/subset of the dataset with which analysis was carried out.
    }
$Associnfo=implode(",",$_POST["check_list"]);
$Phenotype=implode(",",$_POST["check_list2"]);
$Filter=$_POST["Filter"];
    if ($Filter=="1") {
        $Filter_value="SNPID36";
    } elseif ($Filter=="2") {
        $Filter_value="SNPID37";
    } elseif ($Filter=="3") {
        $Filter_value="NearestGene";
    }
$PvalueName=$_POST["P-value_name"];
    if ($PvalueName=="1") {
        $PvalueName_value="P_valueUncorrected";
    } elseif ($PvalueName=="2") {
        $PvalueName_value="P_valueCorrected";
    }
$PvalueNumber=$_POST["P-value_number"];
```

```

if ($PvalueNumber=="1") {
    $PvalueNumber_value="> '0'";
} elseif ($PvalueNumber=="2") {
    $PvalueNumber_value="< '0.001'";
} elseif ($PvalueNumber=="3") {
    $PvalueNumber_value="< '0.0001'";
} elseif ($PvalueNumber=="4") {
    $PvalueNumber_value="< '0.00001'";
} elseif ($PvalueNumber=="5") {
    $PvalueNumber_value="< '0.000001'";
} elseif ($PvalueNumber=="6") {
    $PvalueNumber_value="< '0.0000001'";
} elseif ($PvalueNumber=="7") {
    $PvalueNumber_value="< '0.00000001'";
}
}
$Retrieve=$_POST["submit"];

if ($Dataset_value=="ALL") {

    $myfile = fopen($_FILES["Filter2"]["tmp_name"], "rb");
    $FileType = pathinfo(basename($_FILES["Filter2"]["name"]),PATHINFO_EXTENSION);

    if($Filter_value!=" AND $_POST["Filter2"]==" AND
file_exists($_FILES["Filter2"]["tmp_name"])) {

        if ($FileType == "txt") {

            if ($Filter_value=="SNPID36") {

                while(($content= fgets($myfile)) !==false){

```

```

        $content2=trim($content);
        $content3[]="'$content2'";
    }
    $content4=implode(",",$content3);

    fclose($myfile);
    $sql="SELECT $Associnfo FROM <SNP_association_data_table_name
(Dataset 1)> WHERE $Filter_value IN ($content4) AND Phenotype IN($Phenotype) AND $PvalueName_value >
0 AND $PvalueName_value $PvalueNumber_value UNION SELECT $Associnfo FROM
<SNP_association_data_table_name (Dataset 2)> WHERE $Filter_value IN ($content4) AND Phenotype
IN($Phenotype) AND $PvalueName_value > 0 AND $PvalueName_value $PvalueNumber_value UNION #Repeat for
all SNP association data tables";
    }

    if ($Filter_value=="SNPID37") {

        while(($content= fgets($myfile)) !==false){
            $content2=trim($content);
            $content3[]="'$content2'";
        }
        $content4=implode(",",$content3);

        fclose($myfile);
        $sql="SELECT $Associnfo FROM <SNP_association_data_table_name
(Dataset 1)> WHERE SNPID36 IN((SELECT SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE
$Filter_value IN ($content4))) AND Phenotype IN($Phenotype) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value UNION SELECT $Associnfo FROM <SNP_association_data_table_name
(Dataset 2)> WHERE SNPID36 IN((SELECT SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE
$Filter_value IN ($content4))) AND Phenotype IN($Phenotype) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value UNION #Repeat for all SNP association data tables";
    }

```

```

        if ($Filter_value=="NearestGene") {

            while(($content= fgets($myfile)) !==false){
                $content2=trim($content);
                $content3[]=$content2";
            }
            $content4=implode("|",$content3);

            fclose($myfile);
            $sql="SELECT $Associnfo FROM <SNP_association_data_table_name
(Dataset 1)> WHERE SNPID36 IN((SELECT SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE
$Filter_value REGEXP '$content4')) AND Phenotype IN($Phenotype) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value UNION SELECT $Associnfo FROM <SNP_association_data_table_name
(Dataset 2)> WHERE SNPID36 IN((SELECT SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE
$Filter_value REGEXP '$content4')) AND Phenotype IN($Phenotype) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value UNION #Repeat for all SNP association data tables";
        }

    } else {
        echo "Make sure the file you are trying to upload is a text file!";
    }
}

if($Filter_value!=" " AND $_POST["Filter2"]!=" " AND
!file_exists($_FILES["Filter2"]["tmp_name"])) {

    $Filter2=$_POST["Filter2"];

    if ($Filter_value=="SNPID36") {

```

```

        $sql="SELECT $Associnfo FROM <SNP_association_data_table_name (Dataset 1)>
WHERE $Filter_value IN ('$Filter2') AND Phenotype IN($Phenotype) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value UNION SELECT $Associnfo FROM <SNP_association_data_table_name
(Dataset 2)> WHERE $Filter_value IN ('$Filter2') AND Phenotype IN($Phenotype) AND $PvalueName_value >
0 AND $PvalueName_value $PvalueNumber_value UNION #Repeat for all SNP association data tables";
    }

    if ($Filter_value=="SNPID37") {

        $sql="SELECT $Associnfo FROM <SNP_association_data_table_name (Dataset 1)>
WHERE SNPID36 IN((SELECT SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE
$Filter_value IN ('$Filter2')) AND Phenotype IN($Phenotype) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value UNION SELECT $Associnfo FROM <SNP_association_data_table_name
(Dataset 2)> WHERE SNPID36 IN((SELECT SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE
$Filter_value IN ('$Filter2')) AND Phenotype IN($Phenotype) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value UNION #Repeat for all SNP association data tables");
    }

    if ($Filter_value=="NearestGene") {

        $sql="SELECT $Associnfo FROM <SNP_association_data_table_name (Dataset 1)>
WHERE SNPID36 IN((SELECT SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE
$Filter_value REGEXP '$Filter2')) AND Phenotype IN($Phenotype) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value UNION SELECT $Associnfo FROM <SNP_association_data_table_name
(Dataset 2)> WHERE SNPID36 IN((SELECT SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE
$Filter_value REGEXP '$Filter2')) AND Phenotype IN($Phenotype) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value UNION #Repeat for all SNP association data tables");
    }

} elseif ($Filter_value=="") {

```



```

        $sql="SELECT $Associnfo FROM <SNP_association_data_table_name (Dataset 1)>
WHERE Phenotype IN($Phenotype) AND $PvalueName_value > 0 AND $PvalueName_value $PvalueNumber_value
UNION SELECT $Associnfo FROM <SNP_association_data_table_name (Dataset 2)> WHERE Phenotype
IN($Phenotype) AND $PvalueName_value > 0 AND $PvalueName_value $PvalueNumber_value UNION #Repeat for
all SNP association data tables";
    }

    } else {

        $myfile = fopen($_FILES["Filter2"]["tmp_name"], "rb");
        $FileType = pathinfo(basename($_FILES["Filter2"]["name"]),PATHINFO_EXTENSION);

        if($Filter_value!=" AND $_POST["Filter2"]==" AND
file_exists($_FILES["Filter2"]["tmp_name"])) {

            if ($FileType == "txt") {

                if ($Filter_value=="SNPID36") {

                    while(($content= fgets($myfile)) !==false){
                        $content2=trim($content);
                        $content3[]="'$content2'";
                    }
                    $content4=implode(",",$content3);

                    fclose($myfile);
                    $sql="SELECT $Associnfo FROM $Dataset_table WHERE $Filter_value IN
($content4) AND Phenotype IN($Phenotype) AND Dataset IN($Dataset_value) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value";
                }
            }
        }
    }
}

```

```

if ($Filter_value=="SNPID37") {

    while(($content= fgets($myfile)) !=false){
        $content2=trim($content);
        $content3[]="'$content2'";
    }
    $content4=implode(",",$content3);

    fclose($myfile);
    $sql="SELECT $Associnfo FROM $Dataset_table WHERE SNPID36 IN((SELECT
SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE $Filter_value IN ($content4))) AND
Phenotype IN($Phenotype) AND Dataset IN($Dataset_value) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value";
}

if ($Filter_value=="NearestGene") {

    while(($content= fgets($myfile)) !=false){
        $content2=trim($content);
        $content3[]=$content2;
    }
    $content4=implode("|",$content3);

    fclose($myfile);
    $sql="SELECT $Associnfo FROM $Dataset_table WHERE SNPID36 IN((SELECT
SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE $Filter_value REGEXP '$content4'))
AND Phenotype IN($Phenotype) AND Dataset IN($Dataset_value) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value";
}

} else {

```

```

        echo "Make sure the file you are trying to upload is a text file!";
    }
}

if($Filter_value!=" AND $_POST["Filter2"]!=" AND
!file_exists($_FILES["Filter2"]["tmp_name"])) {

    $Filter2=$_POST["Filter2"];

    if ($Filter_value=="SNPID36") {

        $sql="SELECT $Associnfo FROM $Dataset_table WHERE $Filter_value IN
('$Filter2') AND Phenotype IN($Phenotype) AND Dataset IN($Dataset_value) AND $PvalueName_value > 0
AND $PvalueName_value $PvalueNumber_value";
    }

    if ($Filter_value=="SNPID37") {

        $sql="SELECT $Associnfo FROM $Dataset_table WHERE SNPID36 IN((SELECT
SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE $Filter_value IN ('$Filter2')) AND
Phenotype IN($Phenotype) AND Dataset IN($Dataset_value) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value";
    }

    if ($Filter_value=="NearestGene") {

        $sql="SELECT $Associnfo FROM $Dataset_table WHERE SNPID36 IN((SELECT
SNPID36 FROM <SNP_information/annotation_data_table_name> WHERE $Filter_value IN ('$Filter2')) AND
Phenotype IN($Phenotype) AND Dataset IN($Dataset_value) AND $PvalueName_value > 0 AND
$PvalueName_value $PvalueNumber_value";
    }
}

```

```

        } elseif ($Filter_value=="") {

                $sql="SELECT $Associnfo FROM $Dataset_table WHERE Phenotype IN($Phenotype) AND
Dataset IN($Dataset_value) AND $PvalueName_value > 0 AND $PvalueName_value $PvalueNumber_value";
        }

        $result = $conn->query($sql);

        include("print_or_save.php");

        $row_cnt = $result->num_rows;

        if($Filter_value!="" AND $_POST["Filter2"]=="" AND
!file_exists($_FILES["Filter2"]["tmp_name"])) {
                echo "Please specify either a single SNP-related filter value or upload a file of
SNP-related filter values.";

        } elseif($Filter_value!="" AND $_POST["Filter2"]!="" AND
file_exists($_FILES["Filter2"]["tmp_name"])) {
                echo "Please specify either a single SNP-related filter value or upload a file of
SNP-related filter values (not both).";

        } elseif(($PvalueNumber!="1" OR $Filter_value!="") AND ($_POST["Filter2"]!="" OR
file_exists($_FILES["Filter2"]["tmp_name"]))) AND !isset($Associnfo) OR !isset($Phenotype)) {
                echo "Make sure you have selected some options of what to retrieve!";

        } elseif ($row_cnt>0 AND isset($Associnfo) AND isset($Phenotype)) {
                echo "<strong>$row_cnt result(s) matched the selected criteria</strong><br><br>";
                echo '</table>';
        }

```

```
    } elseif ($row_cnt==0) {  
        echo "<strong>0 result(s) matched the selected criteria</strong><br><br>";  
    }
```

```
    $conn->close();  
?>
```

```
</body>
```

```
</html>
```