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| **Course code and name:** | F27WD – Web Design and Databases |
| **Type of assessment:** | **Group** |
| **Coursework Title:** | Coursework2 |
| **Student Name:** | Lucca Marcondes Browning |
| **Student ID Number:** | H00369673 |

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| **Course code and name:** | F27WD – Web Design and Databases |
| **Type of assessment:** | **Group** |
| **Coursework Title:** | Coursework2 |
| **Student Name:** | Matthew Forsyth |
| **Student ID Number:** | H00372975 |

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| **Course code and name:** | F27WD – Web Design and Databases |
| **Type of assessment:** | **Group** |
| **Coursework Title:** | Coursework2 |
| **Student Name:** | CJ Pell |
| **Student ID Number:** | H00373745 |

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| **Course code and name:** | F27WD – Web Design and Databases |
| **Type of assessment:** | **Group** |
| **Coursework Title:** | Coursework2 |
| **Student Name:** | Jamie Mcintosh |
| **Student ID Number:** | H00371025 |

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| **Course code and name:** | F27WD – Web Design and Databases |
| **Type of assessment:** | **Group** |
| **Coursework Title:** | Coursework2 |
| **Student Name:** | James Stewart |
| **Student ID Number:** | H00371382 |

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Relational diagram

|  |
| --- |
| Countries |
| **countryID**  countryName  currency  visaRequiredFromUK |

1

|  |
| --- |
| Users |
| **userID**  name  email  hasVisa |

1

|  |
| --- |
| Cities |
| **cityID**  M  cityName  *countryID* |

1

|  |
| --- |
| Uservisits |
| **ratingID**  M  *userID*  *siteID*  rating |

|  |
| --- |
| Sites |
| **siteID**  M  siteName  category  *cityID* |

M

1

**Bold = Primary Key**

*Italics = Foreign Key*

Database creation SQL

Database

CREATE DATABASE travelAdvisor

Country Table

CREATE TABLE countries (

countryID int NOT NULL AUTO\_INCREMENT,

countryName varchar(255),

currency varchar(255),

visaRequiredFromUK SET('Yes', 'Not required'),

PRIMARY KEY (countryID)

);

Cities Table

CREATE TABLE cities (

cityID int NOT NULL AUTO\_INCREMENT,

cityName varchar(255),

countryID int,

PRIMARY KEY (cityID),

FOREIGN KEY (countryID) REFERENCES countries(countryID)

);

Sites Table

CREATE TABLE sites (

siteID int NOT NULL AUTO\_INCREMENT,

siteName varchar(255),

category SET('Museum', 'Park', 'Ride', 'Architecture', 'Food and Drink'),

cityID int,

PRIMARY KEY (siteID),

FOREIGN KEY (cityID) REFERENCES cities(CityID)

);

Users Table

CREATE TABLE users (

userID int NOT NULL AUTO\_INCREMENT,

name varchar(255),

email varchar(255),

hasVisa SET('Yes', 'No')

PRIMARY KEY (userID)

);

Uservisits Table

CREATE TABLE uservisits (

ratingID int NOT NULL AUTO\_INCREMENT,

userID int,

siteID int,

rating int CHECK (rating>=1 AND rating<=5),

PRIMARY KEY (ratingID),

FOREIGN KEY (userID) REFERENCES users(userID),

FOREIGN KEY (siteID) REFERENCES sites(siteID)

);

Database data insertion SQL

Countries Table

INSERT INTO countries (countryName, currency, visaRequiredFromUK)

VALUES ('United Kingdom', 'Great British Pound', 'Not requred'), ('America', 'US Dollar', 'Yes'), ('France', 'Euro', 'Not requred'), ('Canada', 'Canadian Dollar', 'Not requred'), ('Australia', 'Austrailian Dollar', 'Yes');

Cities Table

INSERT INTO cities (cityName, countryID)

VALUES ('London', 1), ('Edinburgh', 1), ('New York', 2), ('Washington DC', 2), ('Paris', 3), ('Lyon', 3), ('Toronto', 4), ('Montreal', 4), ('Sydney', 5), ('Melbourne', 5);

Sites Table

INSERT INTO sites (siteName, category, cityID)

VALUES ('London Eye', 'Ride', 1), ('Hyde Park', 'Park', 1), ('Edinburgh Castle', 'Architecture', 2), ('National Museum of Scotland', 'Museum', 2), ('Central Park', 'Park', 3), ('Statue of Liberty', 'Architecture', 3), ('White House', 'Architecture', 4), ('Smithsonian National Museum of Natural History', 'Museum', 4), ('Jules Verne Restaurant - Eiffel Tower', 'Food and Drink', 5), ('Arc de Triomphe', 'Architecture', 5), ('Museum of Fine Arts Lyon', 'Museum', 6), ('Vieux Lyon', 'Architecture', 6), ('CN Tower', 'Architecture', 7), ('Casa Loma', 'Architecture', 7), ('Jean Talon Market', 'Food and Drink', 8), ('Montral Botanical Garden', 'Park', 8), ('Sydney Opera House', 'Architecture', 9), ('Marrickville Organic Food and Farmers Market', 'Food and Drink', 9), ('City Circle Tram', 'Ride', 10), ('Shrine of Remembrance', 'Architecture', 10);

Users Table

INSERT INTO users (name, email, hasVisa)

VALUES ('Matthew Forsyth', 'mgf2001@hw.ac.uk', 'No'), ('CJ Pell', 'cp2020@hw.ac.uk', 'No'), ('Lucca Marcondes Browning', 'lam2002@hw.ac.uk', 'Yes'), ('Jamie Mcintosh', 'jm2055@hw.ac.uk', 'Yes'), ('James Stewart', 'jws2000@hw.ac.uk', 'Yes');

User Visits Table

INSERT INTO uservisits (userID, siteID, rating)

VALUES (1,1,1), (1,2,1), (1,3,1), (1,4,1), (2,5,2), (2,6,2), (2,7,2), (2,8,2), (3,9,3), (3,10,3), (3,11,3), (3,12,3), (4,13,4), (4,14,4), (4,15,4), (4,16,4), (5,17,5), (5,18,5), (5,19,5), (5,20,5);

Queries in SQL

List of all cities that contain a museum without JOIN:

SELECT cityName

FROM cities, sites

WHERE (sites.category = "Museum") AND (sites.cityID = cities.cityID);

List of all cities that one can visit without a visa with JOIN:

SELECT cities.cityName

FROM countries

INNER JOIN cities ON (cities.countryID = countries.countryID)

WHERE (countries.visaRequiredFromUK != "Yes");

List of all cities that one can visit without a visa without JOIN:

SELECT cityName

FROM cities, countries

WHERE (countries.visaRequiredFromUK != "Yes") and (cities.countryID = countries.countryID);

List of users that have visited Central Park:

SELECT users.name

FROM users

INNER JOIN uservisits ON (uservisits.userID = users.userID)

INNER JOIN sites ON (sites.siteID = uservisits.siteID)

WHERE sites.siteName = "Central Park";

Bonus Queries in SQL

List of all countries that have cities with a park:

SELECT countries.countryName

FROM countries

INNER JOIN cities ON (cities.countryID = countries.countryID)

INNER JOIN sites ON (sites.cityID = cities.cityID)

WHERE sites.category = "Park";

* First the name of the country is selected from the countries table.
* Then the program links the countryID column in the cities table with the one in the countries table.
* Then the program links the cityID column in the sites table with the one in the cities table.
* Then the program uses the links between the 3 tables to find all of the counties that have attractions with the category “Park”.

List of all cities that contain a museum with JOIN:

SELECT cities.cityName

FROM cities

INNER JOIN sites ON (sites.cityID = cities.cityID)

WHERE sites.category = "Museum";

* This is a version of the query above that uses the JOIN statement instead of a compound WHERE statement.

List of users that have visited Statue of Liberty:

SELECT users.name

FROM users

INNER JOIN uservisits ON (uservisits.userID = users.userID)

INNER JOIN sites ON (sites.siteID = uservisits.siteID)

WHERE sites.siteName = "Statue of Liberty";

* First the name of the user is selected from the users table.
* Then the program links the userID column in the uservisits table with the one in the users table.
* Then the program links the siteID column in the sites table with the one in the uservisits table.
* Then the program uses the links between the 3 tables to find all of the users that have visited the “Statue of Liberty”.

List of users that have visited Melbourne:

SELECT users.name

FROM users

INNER JOIN uservisits ON (uservisits.userID = users.userID)

INNER JOIN sites ON (sites.siteID = uservisits.siteID)

INNER JOIN cities ON (cities.cityID = sites.cityID)

WHERE cities.cityName = "Melbourne"

GROUP BY name;

* First the name of the user is selected from the users table.
* Then the program links the userID column in the uservisits table with the one in the users table.
* Then the program links the siteID column in the sites table with the one in the uservisits table.
* Then the program links the cityID column in the cities table with the one in the sites table.
* Then the program uses the links between the 4 tables to find all of the users that have visited “Melbourne”.

List of countries with Food and Drink

SELECT countries.countryName

FROM countries

INNER JOIN cities ON (cities.countryID = countries.countryID)

INNER JOIN sites ON (sites.cityID = cities.cityID)

WHERE sites.category = "Food and Drink";

* First the name of the country is selected from the countries table.
* Then the program links the countryID column in the cities table with the one in the countries table.
* Then the program links the cityID column in the sites table with the one in the cities table.
* Then the program uses the links between the 3 tables to find all of the counties that have attractions with the category “Food and Drink”.

List of users that have visited France

SELECT users.name

FROM users

INNER JOIN uservisits ON (uservisits.userID = users.userID)

INNER JOIN sites ON (sites.siteID = uservisits.siteID)

INNER JOIN cities ON (cities.cityID = sites.cityID)

INNER JOIN countries ON (countries.countryID = cities.countryID)

WHERE countries.countryName = "France"

GROUP BY name;

* First the name of the user is selected from the users table.
* Then the program links the userID column in the uservisits table with the one in the users table.
* Then the program links the siteID column in the sites table with the one in the uservisits table.
* Then the program links the cityID column in the cities table with one in the sites table
* Then the program links the countryID column in the countries table with the one in the cities table
* Then the program uses the links between the 4 tables to find all of the users that have visited “France”.

List of countries with a piece of Architecture and don’t require a visa (travelling from the UK)

SELECT countries.countryName

FROM countries

INNER JOIN cities ON (cities.countryID = countries.countryID)

INNER JOIN sites ON (sites.cityID = cities.cityID)

WHERE (sites.category = "Architecture") and (countries.visaRequiredFromUK != "Yes");

* First the country name is selected from the countries table.
* Then the program links the country column in the cities table with the one in the countries table.
* Then the program links the cityID column in the sites table with the one in the cities table.
* Then the program uses the links between the 3 tables to find all of the countries which have a piece of Architecture and do not require a visa while travelling from the UK.

List of sites with a rating of 5 stars

SELECT sites.siteName

FROM users

INNER JOIN uservisits ON (uservisits.userID = users.userID)

INNER JOIN sites ON (sites.siteID = uservisits.siteID)

WHERE uservisits.rating = "5";

* First the site name is selected from the sites table.
* Then the program links the userID column in the uservisits table with the one in the users table.
* Then the program links the siteID column in the sites table with the one in the uservisits table.
* Then the program uses the links between the 2 tables to find all the sites with a review of 5 stars.

PHP

Sites.php

**<?php**

include "pdo.php";

if(isset($\_POST["site\_type"])){

$selected\_site\_type = $\_POST["site\_type"];

} else {

$selected\_site\_type = "";

}

echo "<html><body>";

echo "<form action='sites.php' method='post'>";

echo "<select name='site\_type'>";

$result = $pdo->query("SELECT DISTINCT category FROM sites ORDER BY category");

while ($row = $result->fetch()) {

$type = $row["category"];

if ($type == $selected\_site\_type) {

$option = "<option selected>";

} else {

$option = "<option>";

}

echo $option . $type . "</option>";

}

echo "</select>";

echo "<input type='submit' value='Submit'>";

echo "</form>";

if ($selected\_site\_type) {

echo "<table border = 1>";

echo "<tr><th align='left'>Site Name</th><th align='left'>City</th><th align='left'>country</th><th align='left'>need a visa?</th></tr>";

$stmt = $pdo->prepare("SELECT siteName, cityName, countryName, visaRequiredFromUK

FROM sites, cities, countries WHERE sites.cityID = cities.cityID AND

countries.countryID = cities.countryID AND category = ?");

$stmt->execute([$selected\_site\_type]);

while ($row = $stmt->fetch()) {

echo "<tr><td>" . $row["siteName"] . "</td><td>" . $row["cityName"] . "</td><td>" . $row["countryName"] . "</td><td>" . $row["visaRequiredFromUK"] . "</td></tr>";

}

}

echo "</table>";

echo "</body></html>";

**?>**

Users.php

**<?php**

include "pdo.php";

if(isset($\_POST["site\_type"])){

$selected\_user = $\_POST["site\_type"];

} else {

$selected\_user = "";

}

echo "<html><body>";

echo "<form action='users.php' method='post'>";

echo "<select name='site\_type'>";

$result = $pdo->query("SELECT userID FROM users");

while ($row = $result->fetch()) {

$type = $row["userID"];

if ($type == $selected\_user) {

$option = "<option selected>";

} else {

$option = "<option>";

}

echo $option . $type . "</option>";

}

echo "</select>";

echo "<input type='submit' value='Submit'>";

echo "</form>";

if ($selected\_user) {

echo "<table border = 1>";

echo "<tr><th align='left'>name</th><th align='left'>cities visited</th></tr>";

$stmt = $pdo->prepare("SELECT DISTINCT name, cityName FROM users, cities, uservisits, sites

WHERE uservisits.userID = users.userID AND uservisits.siteID = sites.siteID AND sites.cityID = cities.cityID AND users.userID = ?");

$stmt->execute([$selected\_user]);

while ($row = $stmt->fetch()) {

echo "<tr><td>" . $row["name"] . "</td><td>" . $row["cityName"] . "</td></tr>";

}

}

echo "</table>";

echo "</body></html>";

**?>**

Cities.php

**<?php**

include "pdo.php";

if(isset($\_POST["site\_type"])){

$selected\_city\_name = $\_POST["site\_type"];

} else {

$selected\_city\_name = "";

}

echo "<html><body>";

echo "<form action='cities.php' method='post'>";

echo "<select name='site\_type'>";

$result = $pdo->query("SELECT cityName FROM cities");

while ($row = $result->fetch()) {

$type = $row["cityName"];

if ($type == $selected\_city\_name) {

$option = "<option selected>";

} else {

$option = "<option>";

}

echo $option . $type . "</option>";

}

echo "</select>";

echo "<input type='submit' value='Submit'>";

echo "</form>";

if ($selected\_city\_name) {

echo "<table border = 1>";

echo "<tr><th align='left'>site name</th><th align='left'>average rating</th></tr>";

$stmt = $pdo->prepare("SELECT siteName, ROUND(AVG(rating), 1) AS averageRating FROM cities, sites, uservisits

WHERE uservisits.siteID = sites.siteID AND sites.cityID = cities.cityID AND cityName = ? GROUP BY siteName");

$stmt->execute([$selected\_city\_name]);

while ($row = $stmt->fetch()) {

echo "<tr><td>" . $row["siteName"] . "</td><td>" . $row["averageRating"] . "</td></tr>";

}

}

echo "</table>";

echo "</body></html>";

**?>**

Effort points

|  |  |
| --- | --- |
| Person | Tasks done |
| Matthew  10/10 | * Designed the Database * Created the Database in SQL * Inserted the data into the Database in SQL * Inserted all the Declarations of Authorship |
| Lucca  10/10 | * Formatted the Submission Document * Bonus Queried the Database in SQL (first 4) |
| CJ  10/10 | - Queried the Database in SQL |
| James  10/10 | * Queried the Database in PHP |
| Jamie  10/10 | * Bonus Queried the Database in SQL (last 4) |