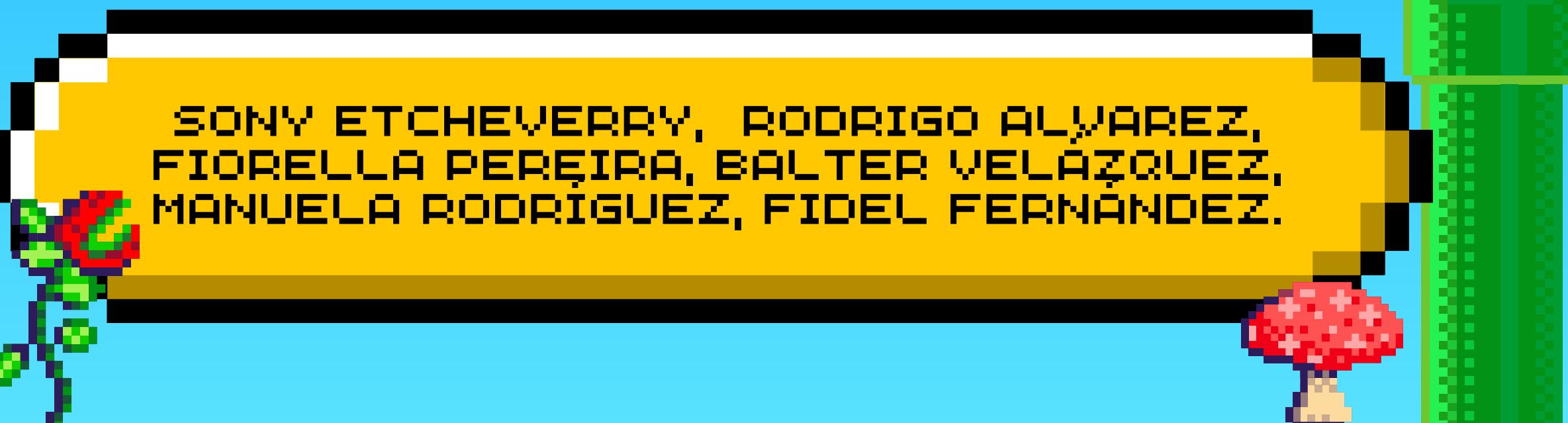
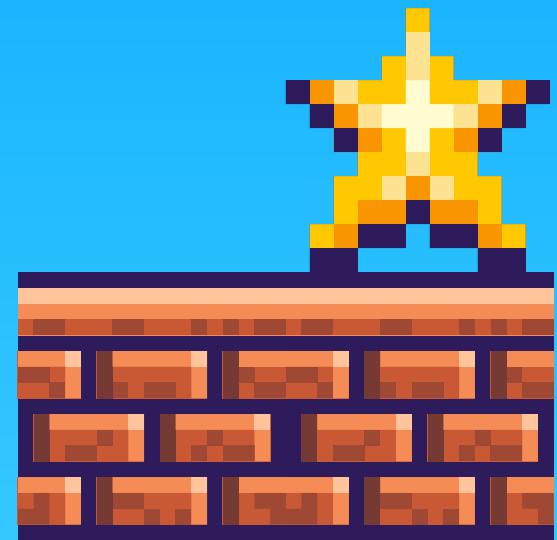


LABORATORIOS

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OBJETIVOS:



Utilizar la declaración CREATE para crear bases de datos y tablas.



Utilizar la declaración SHOW para ver las bases de datos y tablas disponibles.



Utilizar la declaración DROP para eliminar bases de datos y tablas.



Utilizar la instrucción ALTER para alterar la estructura de una tabla.

LAB 208

Operaciones de tabla de base de datos



Tarea 1: Crear la Base de Datos y una tabla.

Para mostrar las bases de datos existentes, ejecutamos el comando SHOW DATABASES;

```
MariaDB [ (none) ]> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0.002 sec)

MariaDB [ (none) ]> ;2~
```

Para crear una nueva base de datos llamada mundo, ejecutamos el comando CREATE DATABASE world;



```
MariaDB [(none)]> CREATE DATABASE world;  
Query OK, 1 row affected (0.000 sec)  
  
MariaDB [(none)]>
```

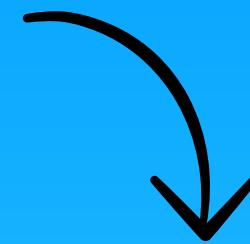
Y utilizamos el comando SHOW nuevamente para verificar la creación de la nueva Base de Datos



```
MariaDB [(none)]> SHOW DATABASES;  
+-----+  
| Database |  
+-----+  
| information_schema |  
| mysql |  
| performance_schema |  
| sys |  
| world |  
+-----+  
5 rows in set (0.000 sec)
```

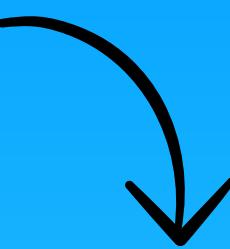


Para crear una tabla llamada country, ejecutaremos el siguiente comando.



```
MariaDB [(none)]> CREATE TABLE world.country (
->   `Code` CHAR(3) NOT NULL DEFAULT '',
->   `Name` CHAR(52) NOT NULL DEFAULT '',
->   `Continent` enum('Asia','Europe','North America','Africa','Oceania','Antarctica','South America') NOT NULL DEFAULT 'Asia',
->   `Region` CHAR(26) NOT NULL DEFAULT '',
->   `SurfaceArea` FLOAT(10,2) NOT NULL DEFAULT '0.00',
->   `IndepYear` SMALLINT(6) DEFAULT NULL,
->   `Population` INT(11) NOT NULL DEFAULT '0',
->   `LifeExpectancy` FLOAT(3,1) DEFAULT NULL,
->   `GNP` FLOAT(10,2) DEFAULT NULL,
->   `GNPOld` FLOAT(10,2) DEFAULT NULL,
->   `LocalName` CHAR(45) NOT NULL DEFAULT '',
->   `GovernmentForm` CHAR(45) NOT NULL DEFAULT '',
->   `HeadOfState` CHAR(60) DEFAULT NULL,
->   `Capital` INT(11) DEFAULT NULL,
->   `Code2` CHAR(2) NOT NULL DEFAULT '',
->   PRIMARY KEY (`Code`)
-> );
Query OK, 0 rows affected (0.013 sec)
```

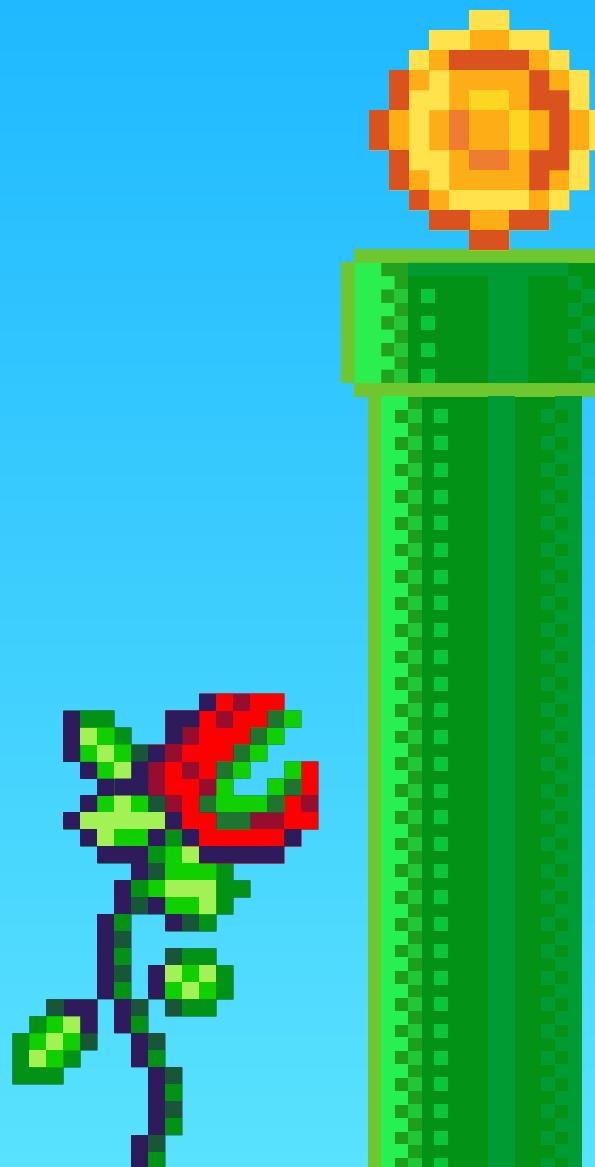
Para verificar que se creó la tabla country, utilizaremos el comando SHOW TABLES; para enumerar las tablas en la base de datos. Pero antes utilizaremos el comando USE para especificar en qué base de datos ejecutar una consulta.



```
MariaDB [(none)]> USE world;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

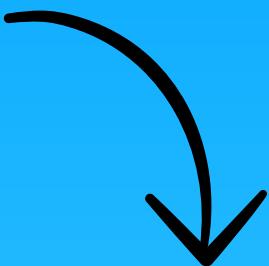
Database changed
MariaDB [world]> SHOW TABLES;
+-----+
| Tables_in_world |
+-----+
| country          |
+-----+
1 row in set (0.000 sec)

MariaDB [world]>
```





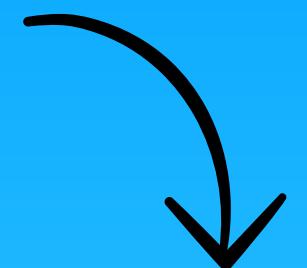
Utilizamos el comando SHOW COLUMNS para enumerar todas las columnas de una tabla, en este caso enumeraremos las de la tabla country.



Field	Type	Null	Key	Default	Extra
Code	char(3)	NO	PRI		
Name	char(52)	NO			
Continent	enum('Asia','Europe','North America','Africa','Oceania','Antarctica','South America')	NO		Asia	
Region	char(26)	NO			
SurfaceArea	float(10,2)	NO		0.00	
IndepYear	smallint(6)	YES		NULL	
Population	int(11)	NO		0	
LifeExpectancy	float(3,1)	YES		NULL	
GNP	float(10,2)	YES		NULL	
GNPOld	float(10,2)	YES		NULL	
LocalName	char(45)	NO			
GovernmentForm	char(45)	NO			
HeadOfState	char(60)	YES		NULL	
Capital	int(11)	YES		NULL	
Code2	char(2)	NO			

Nota: Observe que la columna Continent está escrita incorrectamente como Continent.

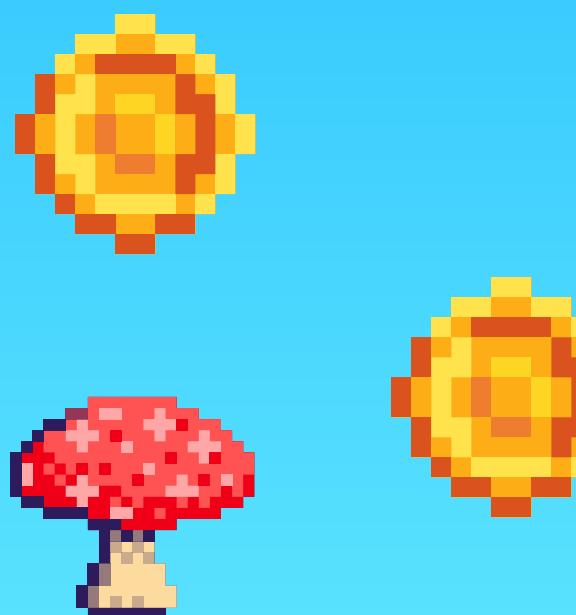
Para solucionar esto, Utilizaremos el comando ALTER TABLE para modificar el esquema de la tabla, y mostraremos nuevamente el cambio.



MariaDB [world]> SHOW COLUMNS FROM world.country;					
Field	Type	Null	Key	Default	Extra
Code	char(3)	NO	PRI		
Name	char(52)	NO			
Continent	enum('Asia','Europe','North America','Africa','Oceania','Antarctica','South America')	NO		Asia	
Region	char(26)	NO			
SurfaceArea	float(10,2)	NO		0.00	
IndepYear	smallint(6)	YES		NULL	
Population	int(11)	NO		0	
LifeExpectancy	float(3,1)	YES		NULL	
GNP	float(10,2)	YES		NULL	
GNPOld	float(10,2)	YES		NULL	
LocalName	char(45)	NO			
GovernmentForm	char(45)	NO			
HeadOfState	char(60)	YES		NULL	
Capital	int(11)	YES		NULL	
Code2	char(2)	NO			

Tarea 2: Eliminar la Base de Datos y la tabla.

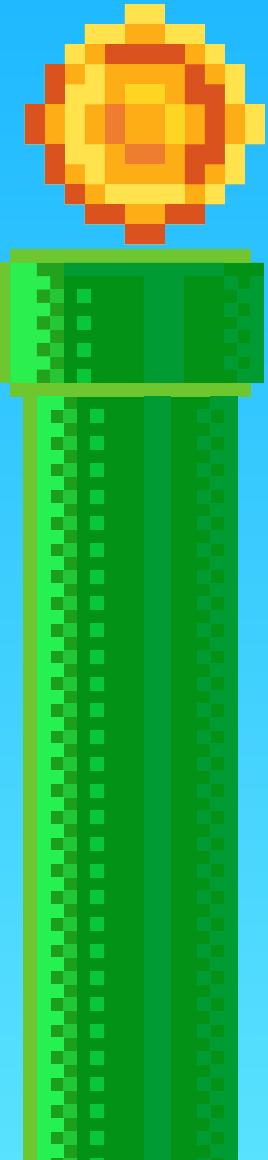
El comando DROP TABLE se utiliza para eliminar una tabla en una base de datos. Una vez que se elimina una tabla, no se puede recuperar a menos que haya una copia de seguridad disponible. Para eliminar la tabla de city, ejecutaremos el siguiente comando:



```
MariaDB [world]> SHOW TABLES FROM world;
+-----+
| Tables_in_world |
+-----+
| city
| country
+-----+
```

```
MariaDB [world]> DROP TABLE world.city;
Query OK, 0 rows affected (0.008 sec)
```

```
MariaDB [world]> SHOW TABLES FROM world;
+-----+
| Tables_in_world |
+-----+
| country
+-----+
```

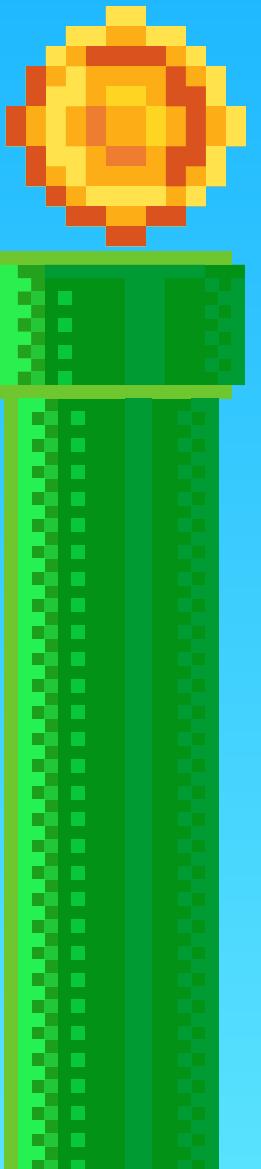
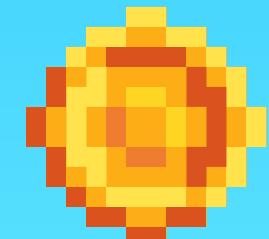
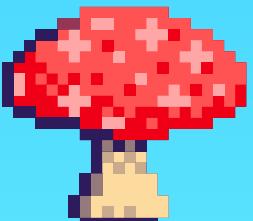
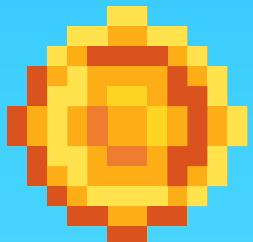


Desafío 1: Cree una tabla llamada ciudad y agregue dos columnas llamadas Nombre y Región. Ambas columnas deben usar el tipo de datos CHAR.

```
MariaDB [world]> CREATE TABLE world.city (`Name` CHAR(52), `Region` CHAR(26));
Query OK, 0 rows affected (0.009 sec)
```

```
MariaDB [world]> SHOW COLUMNS FROM world.city;
```

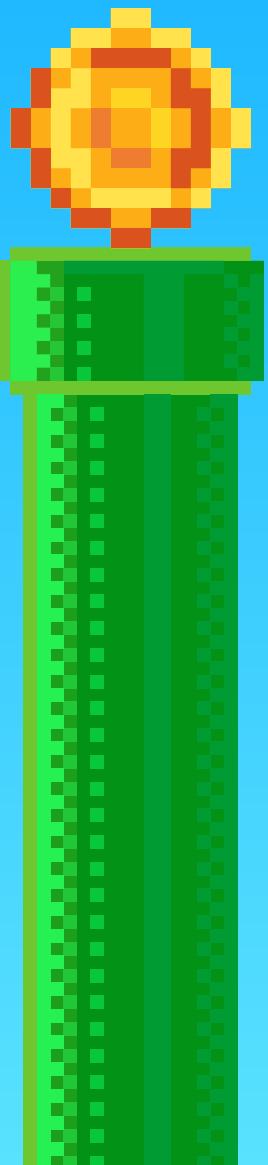
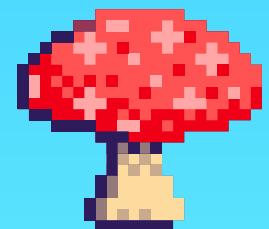
Field	Type	Null	Key	Default	Extra
Name	char(52)	YES		NULL	
Region	char(26)	YES		NULL	



Desafío 2: Escribimos el comando DROP TABLE y descartamos la tabla country. Luego, verificamos el cambio y la tabla vacía.

```
MariaDB [world]> DROP TABLE world.country;  
Query OK, 0 rows affected (0.008 sec)
```

```
MariaDB [world]> SHOW TABLES FROM world;  
Empty set (0.000 sec)
```



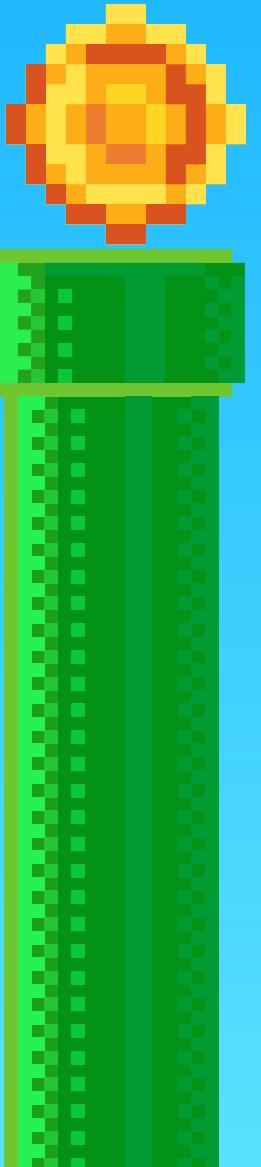
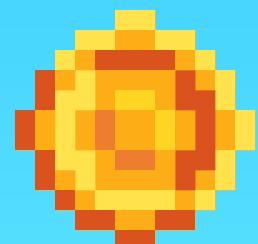
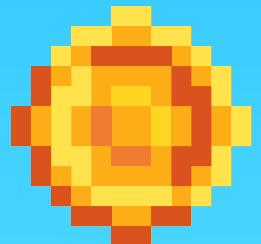
Desafío 2: Finalmente, escribiremos el comando DROP DATABASE y eliminaremos la Base de Datos world. Verificamos.



```
MariaDB [world]> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
| world |
+-----+
5 rows in set (0.000 sec)

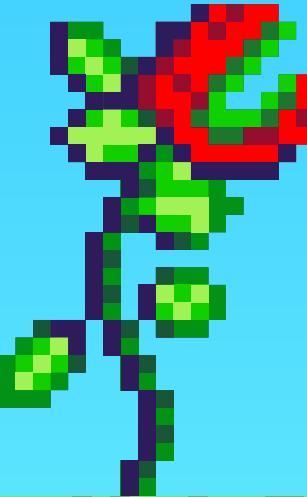
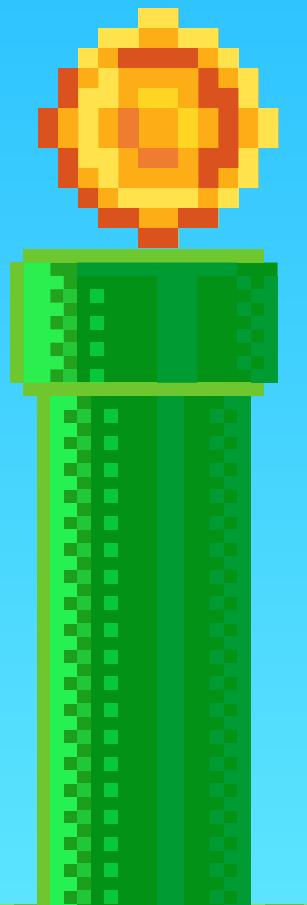
MariaDB [world]> DROP DATABASE world;
Query OK, 0 rows affected (0.003 sec)

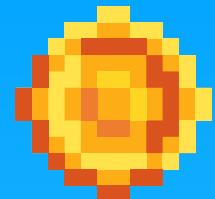
MariaDB [(none)]> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
```



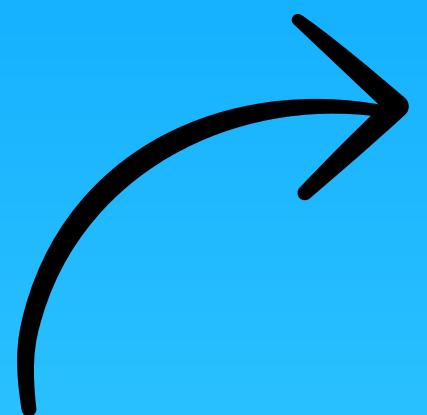
LAB 203

Insertar, actualizar y eliminar datos en una base de datos

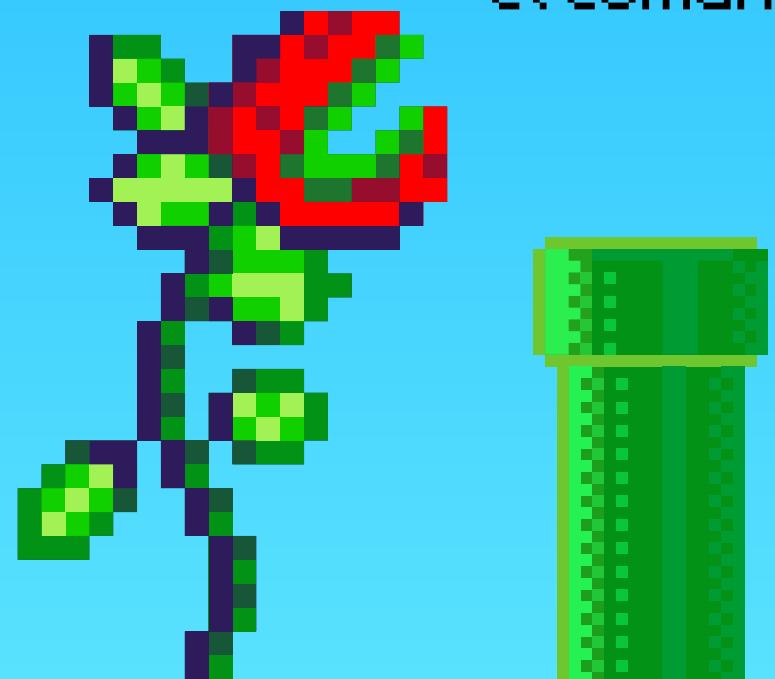




Tarea 1: Insertar datos

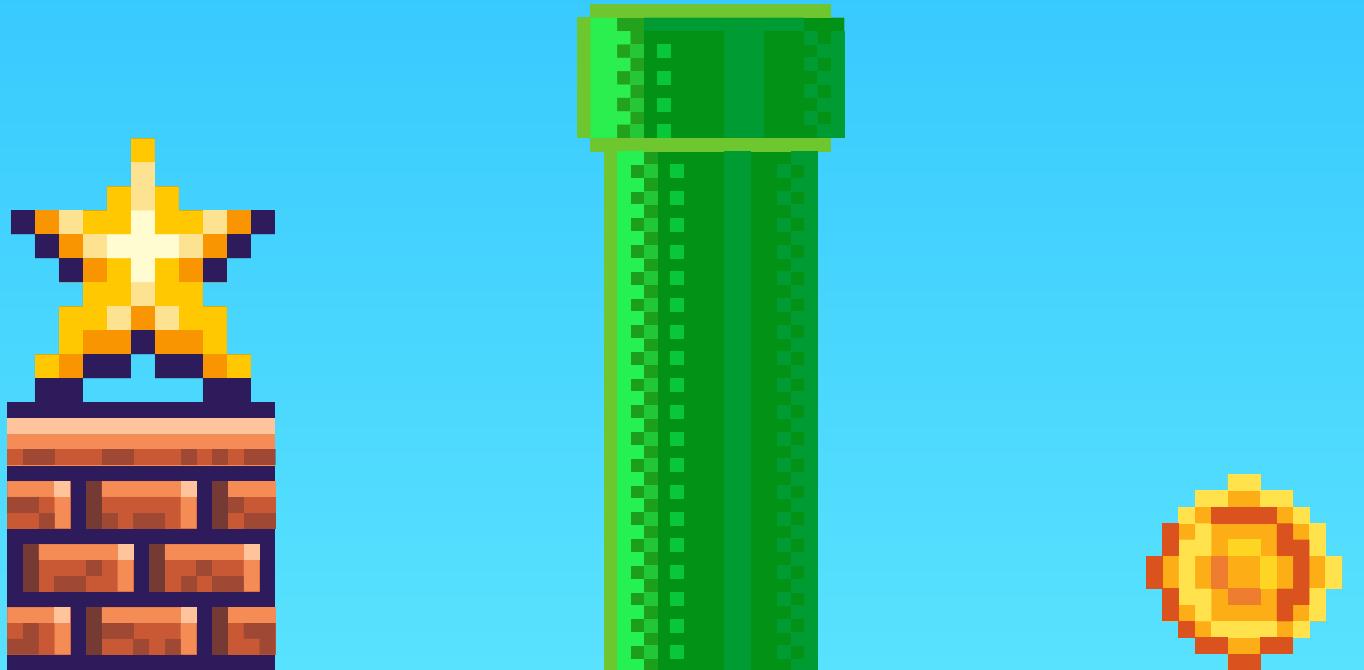


Para insertar los datos en la base de datos existentes, ejecutamos el comando INSERT;



```
MariaDB [world]> INSERT INTO world.country (Code, Name, Continent, Region, SurfaceArea, IndepYear, Population, LifeExpectancy, GNP, GNPOld, LocalName, GovernmentForm, HeadOfState, Capital, Code2)
-> VALUES ('IRL', 'Ireland', 'Europe', 'British Islands', 70273.00, 1921, 3775100, 76.8, 75921.00, 73132.00, 'Ireland/Éire', 'Republic', 'Nombre del Jefe de Estado de Irlanda', 1447, 'IE');
Query OK, 1 row affected (0.001 sec)
```

```
MariaDB [world]> INSERT INTO world.country (Code, Name, Continent, Region, SurfaceArea, IndepYear, Population, LifeExpectancy, GNP, GNPOld, LocalName, GovernmentForm, HeadOfState, Capital, Code2)
-> VALUES ('AUS', 'Australia', 'Oceania', 'Australia and New Zealand', 7741220.00, 1901, 18886000, 79.8, 351182.00, 392911.00, 'Australia', 'Constitutional Monarchy, Federation', 'Nombre del Jefe de Estado de Australia', 135, 'AU');
Query OK, 1 row affected (0.003 sec)
```



Con el comando SELECT * FROM world.country
se muestra el contenido de la tabla "country"

```
MariaDB [world]> SELECT * FROM world.country;
+-----+-----+-----+-----+-----+-----+
| Code | Name      | Continent | Region           | SurfaceArea
| IndepYear | Population | LifeExpectancy | GNP          | GNPOld    | Loc
+-----+-----+-----+-----+-----+-----+
| allName   | GovernmentForm |           | HeadOfState
|           | Capital | Code2 |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| AUS | Australia | Oceania | Australia and New Zealand | 7741220.00
|     | 1901 | 18886000 | 79.8 | 351182.00 | 392911.00 | Aus
+-----+-----+-----+-----+-----+
| tralia | Constitutional Monarchy, Federation | Nombre del Jefe de Es
| tado de Australia | 135 | AU | 
| IRL | Ireland | Europe | British Islands | 70273.00
|     | 1921 | 3775100 | 76.8 | 75921.00 | 73132.00 | Ire
+-----+-----+-----+-----+-----+
| land/Eire | Republic |           | Nombre del Jefe de Es
| tado de Irlanda | 1447 | IE | 
+-----+-----+-----+-----+
+-----+-----+-----+-----+
2 rows in set (0.000 sec)
```

Tarea 2: Actualizar datos

Actualizamos el contenido de el atributo de "Population" a 0

```
MariaDB [world]> UPDATE world.country SET Population = 0;  
Query OK, 2 rows affected (0.001 sec)  
Rows matched: 2    Changed: 2    Warnings: 0
```

Mostramos el contenido de la tabla "country" de la base de datos "world"

```
MariaDB [world]> SELECT * FROM world.country;  
+-----+-----+-----+-----+-----+-----+  
| Code | Name      | Continent | Region           | SurfaceArea | IndepYear |  
| ion  | LifeExpectancy | GNP       | GNPOld          | LocalName    | GovernmentForm  
| HeadOfState  
+-----+-----+-----+-----+-----+-----+  
| AUS | Australia | Oceania   | Australia and New Zealand | 7741220.00 | 1901 |  
| 0 | 79.8 | 351182.00 | 392911.00 | Australia | Constitutional Monarchy  
| tion | Nombre del Jefe de Estado de Australia | 135 | AU |  
| IRL | Ireland   | Europe    | British Islands | 70273.00 | 1921 |  
| 0 | 76.8 | 75921.00 | 73132.00 | Ireland/Éire | Republic  
| | Nombre del Jefe de Estado de Irlanda | 1447 | IE |  
+-----+-----+-----+-----+-----+-----+  
2 rows in set (0.000 sec)
```


Tarea 3: Eliminar filas en una tabla

```
MariaDB [world]> DELETE FROM world.country;  
Query OK, 2 rows affected (0.001 sec)
```

```
MariaDB [world]> SELECT * FROM world.country;  
Empty set (0.000 sec)
```

Tarea 4: Importar info Usando un SQL file

```
[root@ip-10-1-11-176 ec2-user]# ls /home/ec2-user/world.sql
/home/ec2-user/world.sql
[root@ip-10-1-11-176 ec2-user]# mysql -u root --password='re:St@rt!9' < /home/ec2-user/world.sql
[root@ip-10-1-11-176 ec2-user]# mysql -u root --password='re:St@rt!9'
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 18
Server version: 10.6.18-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]>
```

Ingresamos a la carpeta que contiene el archivo SQL y accedimos a la nueva base de datos

```
[root@ip-10-1-11-176 ec2-user]# ls /home/ec2-user/world.sql
/home/ec2-user/world.sql
[root@ip-10-1-11-176 ec2-user]# mysql -u root --password='re:St@rt!9' < /home/ec2-user/world.sql
[root@ip-10-1-11-176 ec2-user]# mysql -u root --password='re:St@rt!9'
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 18
Server version: 10.6.18-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input state
MariaDB [(none)]> USE world;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [world]>
MariaDB [world]> SHOW TABLES;
+-----+
| Tables_in_world |
+-----+
| city           |
| country        |
| countrylanguage |
+-----+
3 rows in set (0.000 sec)
```

Visualizamos el contenido de la tabla country

```
MariaDB [world]> SELECT * FROM country;
```

Code	Name	GNP	GNPOld	LocalName	Continent	Region	GovernmentForm	SurfaceArea
AFG	Afghanistan	45.9	5976.00	NULL	Asia	Southern and Central Asia	Islamic Emirate	652090.00
AGO	Angola	38.3	6648.00	7984.00	Africa	Central Africa	Republic	1246700.00
AIA	Anguilla	76.1	63.20	NULL	North America	Caribbean	Dependent Territory of the UK	96.00
ALB	Albania	71.6	3205.00	2500.00	Europe	Southern Europe	Republic	28748.00
AND	Andorra	83.5	1630.00	NULL	Europe	Southern Europe	Parliamentary Coprincipality	468.00
ANT	Netherlands Antilles	74.7	1941.00	NULL	North America	Caribbean	Nonmetropolitan Territory of The	800.00

Visualizamos el contenido de la tabla countrylanguage

CountryCode	Language	IsOfficial	Percentage
ABW	Dutch	T	5.3
ABW	English	F	9.5
ABW	Papiamento	F	76.7
ABW	Spanish	F	7.4
AFG	Balochi	F	0.9
AFG	Dari	T	32.1
AFG	Pashto	T	52.4
AFG	Turkmenian	F	1.9
AFG	Uzbek	F	8.8
AGO	Ambo	F	2.4
AGO	Chokwe	F	4.2
AGO	Kongo	F	13.2
AGO	Luchazi	F	2.4
AGO	Luimbe-nganguela	F	5.4
AGO	Luvale	F	3.6
AGO	Mbundu	F	21.6
AGO	Nyaneka-nkhumbi	F	5.4
AGO	Ovimbundu	F	37.2
AIA	English	T	0.0

Visualizamos el contenido de la tabla city

```
MariaDB [world]> SELECT * FROM city;
```

1161 Bijapur	IND	Karnataka
186939		
1162 Kukatpalle	IND	Andhra Prades
185378		
1163 Bally	IND	West Bengali
184474		
1164 Bhilwara	IND	Rajasthan
183965		
1165 Ratlam	IND	Madhya Prades
183375		
1166 Avadi	IND	Tamil Nadu
183215		
1167 Dindigul	IND	Tamil Nadu
182477		
1168 Ahmadnagar	IND	Maharashtra
181339		
1169 Bilaspur	IND	Chhatisgarh
179833		
1170 Shimoga	IND	Karnataka
179258		
1171 Kharagpur	IND	West Bengali
177989		

```
4079 rows in set (0.006 sec)
```

GRACIAS POR VISUALIZAR

FIN

