Relational Bike Database

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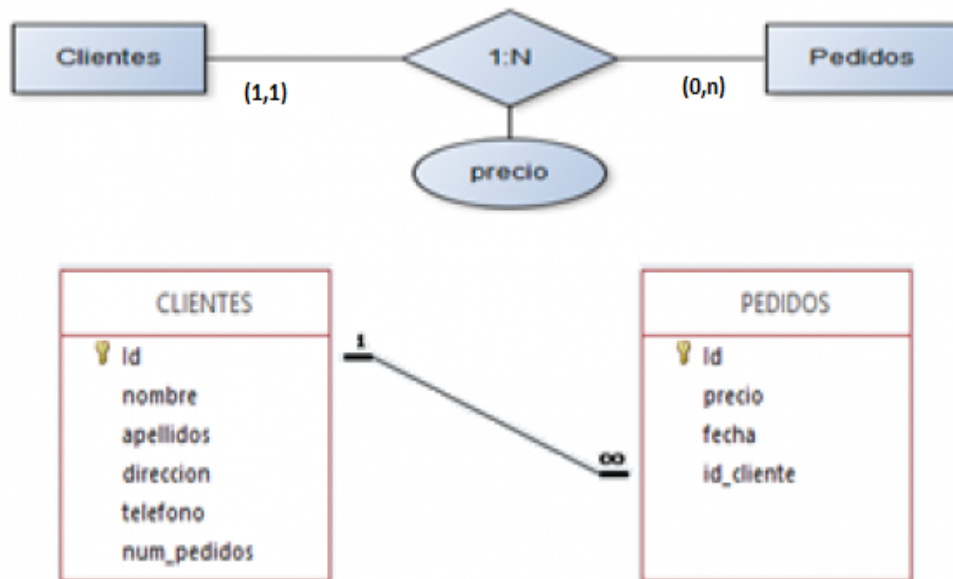
Propose a relational scheme to store your bicycles.

Esquema Bases de Datos Relacional
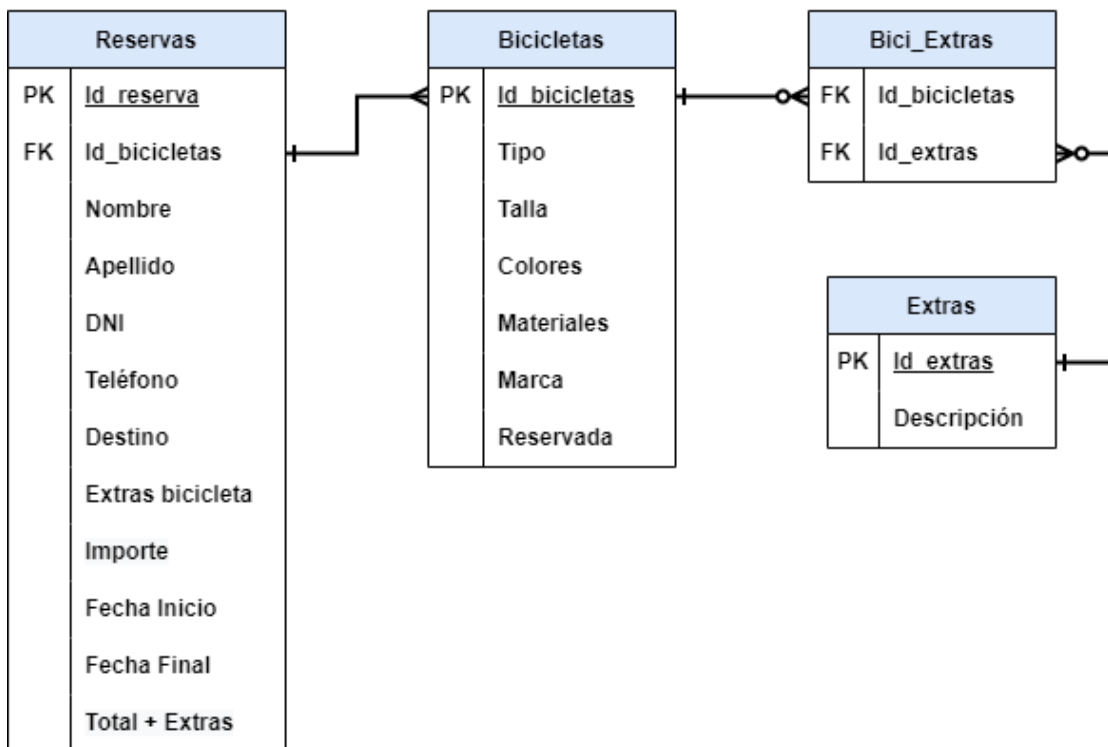
Describe the attributes and their domain.

Bicycles (
  bicycle_id INTEGER AUTO_INCREMENT NOT NULL,
  Type VARCHAR(20) NOT NULL,
  Size VARCHAR(20) NOT NULL,
  Colors VARCHAR(20) NOT NULL,
  Material VARCHAR(20) NOT NULL,
  Brand VARCHAR(20) NOT NULL,
  Reserved BOOLEAN NOT NULL,
  PRIMARY KEY (**Id_bicicletas**)
);

Reservations (
  Id_reserva INTEGER AUTO_INCREMENT NOT NULL
  Id_bicicletas INTEGER AUTO_INCREMENT NOT NULL
  Name VARCHAR(20) NOT NULL,
  Surname VARCHAR(20) NOT NULL,
  DNI VARCHAR(10) NOT NULL,
  Telephone INTEGER NOT NULL,
  Destination VARCHAR(30) NOT NULL,
  Extras bicycle VARCHAR(20),
  Amount INTEGER NOT NULL,

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```
        Start date DATATIME NOT NULL,
        End date DATATIME NOT NULL,
        Total + Extras VARCHAR(20) NOT NULL,
                PRIMARY KEY (Id_reserva),
                FOREIGN KEY (Id_bicicletas) REFERENCES Bicycles (Id_bicicletas)
) ;

Extras(

        Id_extras INTEGER AUTO_INCREMENT NOT NULL
        description VARCHAR(20) NOT NULL
                PRIMARY KEY(Id_extras) REFERENCES Extras(Id_extras)
);

Bike Extras(
        Id_bicicletas integer
        id_extras integer
                PRIMARY KEY(Id_bicicleta, Id_extras)
                FOREIGN KEY (Id_bicicletas) REFERENCES Bikes (Id_bikes)
                FOREIGN KEY (Id_extras) REFERENCES Extras (Id_extras)
);
```

Is null value allowed in your attributes?

-Yes, in the "Extra Bicycle" section since it is something optional decided by the client.

Identify a super key, a candidate key, and choose a primary key.

Super key:
        Reservations (Id_reserva, Id_bicicletas, name, surname, DNI, telephone)
        Bicycle (Id_bicicleta, type, size, color, material)
        Bici_Extra (Id_bicicleta, Id_extras)
        Extra (Id_extras, description)

Candidate Key:
        Reservations (Id_reserva)
        Bicycle (Id_bicicleta)
        Bici_Extra (Id_bicicleta , Id_extras)
        Extra (Id_extras)

Principal Keys:
        Reserves (Id_reserva)
        Bicycle (Id_bicibleta)
        Bici_Extra (Id_bicicleta, Id_extras)
        Extra (Id_extras)

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