# Checkout Backend

## Overview

This is a NodeJS application for calculating the total price of a provided shopping basket after calculating any applicable discounts.

## Data Storage

### Database Type

A SQLite database is used for storing the data, and by default is stored in the project route as db.sqlite. No authentication is utilised on the database due to limitations of the SQLite format.

### Database Structure

A screenshot of a computer screen

Description automatically generated

* The Product table contains the unit code and individual price
* The Offers table links products to offers using item code
* The Offers table contains the discount price and the number of the specified item required to activate the discount
* Item Code and Discount Quantity serve as a composite key in the offers table

### Database Setup

All database functionality is inside helpers/database.js

A setup function is called on application start to ensure the database is setup correctly.

 // Create the product table  
    db.exec(  
      "CREATE TABLE **IF** **NOT** EXISTS product (item\_code TEXT PRIMARY KEY **NOT** NULL, unit\_price INTEGER **NOT** NULL)"  
    );

 // Create the offers table  
    db.exec(  
      "CREATE TABLE **IF** **NOT** EXISTS offers (item\_code TEXT **NOT** NULL, discount\_quantity INTEGER **NOT** NULL, discount\_price INTEGER **NOT** NULL, PRIMARY KEY (item\_code, discount\_quantity))"  
    );

The product and offers tables are created, and the columns added to the tables.

  // **Insert** **initial** **data** **into** the product **table**  
    db.exec(  
      "INSERT INTO product (item\_code, unit\_price) VALUES ('A', 50), ('B', 35), ('C', 25), ('D', 12) ON CONFLICT(item\_code) DO NOTHING;"  
    );  
  
   // **Insert** **initial** **data** **into** the offers **table**  
    db.exec(  
      "INSERT INTO offers (item\_code, discount\_quantity, discount\_price) VALUES ('A', 3, 140), ('B', 2, 60) ON CONFLICT(item\_code, discount\_quantity) DO UPDATE SET discount\_price = excluded.discount\_price;"  
    );

The test data is then inserted into the database.