The software uses the board to implement a supermarket self-checkout system. The software starts by initializing the LCD and the keypad using the functions provided by Dr. Elfouly. The LCD then displays “Scan the Item” and waits for the user to enter a number using the keypad. If a number is not entered, the software displays an error message and asks for the code again. If a number is entered, the first digit is saved, and the user is prompted for the second digit. The software then generates the code from the first and second digits. The code is then checked and made sure to be a valid code. If the code is not valid, an error message is displayed and the software loops back to “Scan the Item”. If the code is valid, the item and price is displayed based on the barcode, and the price is added to the total. If the item is a meat or vegetable, the software asks the user to enter a weight. If the weight entered is not a number, an error message is displayed, and the code asks for the weight again. When a valid weight is entered, the code calculates the price and adds it to the total. The software then parses the total into 4 individual digits to display on the LCD and displays the total amount spent. The code then loops back and asks the user to enter another barcode.