**Pseudocode: FOR STORE CHECKOUT AFTER PURCHASE;**

1. Items are taken to the cashier

2. Items are scanned by the cashier

3. Cashier informs the customer of the total cost

4. Customer pays with any acceptable form of payment

5. A receipt is printed and given to the customer

6. The cashier then bags the items if necessary

7. Cashier leaves the store with the bought items and the receipt

**Algorithm that takes as input two names and their corresponding age and then swap the ages;**

1. Input the first person’s name and age, store them in variables “name 1” and “age 1”.

2. Input the second person’s name and age, store them in variables “name 2” and “age2”.

3. Print out the initial values of the two people:” Name 1:<name1>, Age 1: <age1>”, “Name 2:<name2>, Age 2: <age2>”.

4. Swap the ages by storing the value of “age1” in a temporary variable “temp1.”, then set “age 1” to “age 2” to “temp”.

5. Print out the swapped values of the two people:” Name 1:<name1>, Age 1: <age1>”, “Name 2:<name2>, Age 2: <age2>”.

6. End of the algorithm.

**Algorithm for finding the roots of a quartic equation;**

1. Import the necessary libraries (numpy).
2. Take input for the coefficients of the quartic equation from the user.
3. Use the numpy function **numpy.roots()** to calculate the roots of the equation.
4. Print the roots.

**Algorithm for finding the roots of a quadratic equation;**

1. Prompt the user to enter the coefficients a, b, and c of the quadratic equation ax^2 + bx + c = 0.
2. Calculate the discriminant using the formula discriminant = b^2 - 4ac.
3. If the discriminant is negative, print "No real roots exist" and exit the program.
4. If the discriminant is zero, calculate the single root using the formula root = -b / (2a) and print the result.
5. If the discriminant is positive, calculate the two roots using the formulas root1 = (-b + sqrt(discriminant)) / (2a) and root2 = (-b - sqrt(discriminant)) / (2a), where sqrt is the square root function.
6. Print the two roots**.**