**Pseudocode for a store checkout after purchase:**

START

LET TOTAL\_COST = 0

DISPLAY “WELCOME TO STORE CHECKOUT”

REPEAT UNTIL USER IS DONE:

1. Ask for item name
2. Ask for item price
3. Add all the item prices given and designate to TOTAL\_COST

DISPLAY TOTAL\_COST

PROMPT USER TO PAY

DISPLAY “Than you for shopping with us”

STOP

**Algorithm for swapping name and age**

1. Start
2. Input the first person's name(name1) and age (age1).
3. Input the second person's name (name2) and age (age2​).
4. Display the original ages: age1 for name1 and age2 for name2
5. Swap the ages: store age1 in temporary variable(temp), then assign age2 to age1 and temp to age2
6. Display the swapped ages:age1 for name2 age2 for name1
7. Stop

**Algorithm for cubic equations**

1. Start
2. Input coefficients A,B,C,D.
3. Calculate the discriminant using the formula: Discriminant = 18ABCD – 4B^3D + B^2C^2 – 4AC^3 – 27A^3D^2
4. If Discriminant > 0 proceed with Cardano's method to find the roots.
5. If Discriminant = 0 , there is one real root and two complex roots.
6. If Discriminant <0, there are three real roots.
7. Display the roots
8. Stop

**Algorithm for quartic equations**

1. Input coefficients a,b,c,d,e of the quartic equations
2. Calculate the discriminants :

D0 = b^2 – 3ac

D1 = 2b^3 – 9abc + 27a^2 \* d

D= D1 ^ 2 – 4D0 ^ 3

1. Root calculation: If D > 0:

P = (((D1 + D^0.5))/2)^1/3

Q = (((D1 - D^0.5))/2)^1/3

Compute P and Q:

p = -b+(P+Q)/3a

q = -b-(P+Q)/3a

If D = 0:

Compute p = -b/3a

If D < 0:

Calculate P and Q as:

P = ((D1+i(-D)^0.5)/2)^1/3

Q = ((D1-i(-D)^0.5)/2)^1/3

Compute p and q as:

p = -b+(P+Q)/3a

q = -b-(P+Q)/3a

1. Display the roots p and q.
2. Stop.