1. **Bubble sort**

```
FOR each pass through the array
  SET swapped = false
  FOR each adjacent pair of elements
    IF current element > next element
      SWAP current element and next element
      SET swapped = true
    END IF
  END FOR
  IF no swaps occurred
    BREAK loop
  END IF
END FOR
```

2. **CALCULATOR**

```
Calculator
 INPUT: first number, operation, second number
    CASE '+'
      RETURN first number + second number
    CASE '-'
      RETURN first number - second number
    CASE '*'
      RETURN first number * second number
    CASE '/'
      IF second number is not equal to 0
        RETURN first number / second number
      ELSE
        RETURN error "Division by zero"
      END IF
     END
```

3. Check if number is Palindrome

```
Input string a
string b=[::-1]
if a=b:
        print("number is palindrome")
else:
        print("number is not palindrome")
```

4. Factorial

```
    IF number = 0 OR number = 1
      RETURN 1
  ELSE
    RETURN number * Factorial(number - 1)
  END IF
END
```

5. Fibanocii Series

```
IF number of terms ≤ 0
    RETURN empty array
  END IF

  CREATE result array
  ADD 0 to result array
  IF number of terms > 1
    ADD 1 to result array
  END IF

  WHILE length of result array < number of terms
    SET next term = sum of last two terms in result array
    ADD next term to result array
  END WHILE
```

RETURN result array

END ALGORITHM

6. <u>Find the largest number</u>

IF array is empty

RETURN null

END IF

SET largest = first element of array

FOR each element in array

IF current element > largest

SET largest = current element

END IF

END FOR

RETURN largest

7. <u>Prime</u>

IF number ≤ 1

RETURN false

END IF

FOR divisor = 2 TO square root of number

IF number is divisible by divisor

RETURN false

END IF

END FOR

RETURN true

END ALGORITHM

8. <u>Vowels</u>

INPUT: string to check

```
    OUTPUT: number of vowels
    SET vowels = ['a', 'e', 'i', 'o', 'u']
    SET vowel count = 0
    FOR each character in string
        CONVERT character to lowercase
        IF character is in vowels
            INCREMENT vowel count
        END IF
    END FOR
    RETURN vowel count
END
```