Pseudocodes

1. Find if the number is multiple of 5.

1. START
2. // INPUT/OUTPUT
3. INPUT num
4. // Conditional Statements
5. IF num % 5 is equal to 0:
6. PRINT “Multiple of 5 “
7. Else:
8. PRINT “Not a Multiple of 5”
9. END

2. Check if a character is uppercase or lowercase.

1. START
2. INPUT CHAR
3. IF CHAR > = A AND CHAR <= Z:
4. PRINT “The character is uppercase”
5. ELSE:
6. PRINT “The character is lowercase”
7. END

3. Create a small calculator which only does ‘+’ or ‘\*‘Operations. (Hint: Take three variable inputs with one being used for the operator)

1. START
2. INPUT num1
3. INPUT num2
4. INPUT operator
5. IF operator == +:
6. Answer = num1 + num2
7. Else:
8. Answer = num1 \* num2
9. PRINT Answer
10. END

4. Check whether a given number is positive, negative, or zero.

1. START
2. INPUT Num
3. IF Num > 0:
4. PRINT “Number is Positive”
5. ELSE IF Num < 0:
6. PRINT “Number is Negative”
7. ELSE:
8. PRINT “Number is zero”
9. END

5. Determine if a person is a teenager (between 13 and 19 years old).

1. START
2. INPUT Age
3. IF Age >= 13 AND Age <= 19:
4. PRINT “Teenager”
5. ELSE:
6. PRINT “Not a Teenager”
7. END

Algorithms

1. Implement an algorithm to determine if a given year is a leap year. A leap year is divisible

by 4, but not divisible by 100, except if it is also divisible by 400.

1. Ask user to enter the year
2. If year is divisible by 4
3. Display “The year is a leap year”
4. If year is divisible by 100 and divisible by 400
5. Display “The year is a leap year”
6. If year is not divisible by 100
7. Display “The year is not a leap year”

2. Implement an algorithm to count the number of occurrences of each character in a given string.

1. Ask user for a character
2. Ask user for a string
3. Check the length of the string
4. Loop the algorithm according to the length
5. Check every character of the string and compare it with the character entered
6. Count how many times it appears
7. Display count

3. Write an algorithm to calculate x raised to the power y (i.e., x y) without using built-in

power functions.

1. Ask the user for the number
2. Ask the user for the exponent
3. Multiply the number by itself as many times as stated by the component
4. Display the answer

4. Calculate the area of a circle given its radius r.

1. Ask the user for the radius
2. Set area to (radius \* radius \* π)
3. Display area

5. Find the median of three given numbers.

1. Ask user to enter num1
2. Ask user to enter num2
3. Ask user to enter num3
4. Find the greatest and the smallest number
5. Set median to the number that is not the greatest or the smallest
6. Display median