**Problem Solving (Algorithm):**

**Q1)Implement an algorithm for determining if an Nth is a divisor of an n Number (i.e. 2 is a divisor of 6).If so, determine if it’s an even number or odd number as well.**

**Solution:**

1. Ask user to input Nth number
2. Ask User to input n number
3. Calculate Remainder (R=n/N)
4. If R equals to 0 , Display Nth number is divisor of n number
5. If R does not equal to 0, Display Nth number is not a divisor of n number
6. If Nth number is divisor , Calculate Remainder 2 (R2 = N/2)
7. If R2 equal to 0 , Display Nth Number is Even
8. If R2 is not equal to 0 , Display Nth Number is Odd.

**Q2)Implement an algorithm where the user enters a number and an appropriate month is displayed.**

**Solution:**

1. Ask User to Enter a number
2. Check if the number is greater than equal to 1 or less than equal to 12. If Yes move to next step , if No Display Invalid Number.
3. Check If number is equal to 1 , If Yes Display January , If No move to next step.
4. Check If number is equal to 2 , If Yes Display February, If No move to next step.
5. Check If number is equal to 3 , If Yes Display March , If No move to next step.
6. Check If number is equal to 4 , If Yes Display April, If No move to next step.
7. Check If number is equal to 5 , If Yes Display May, If No move to next step.
8. Check If number is equal to 6 , If Yes Display June, If No move to next step.
9. Check If number is equal to 7 , If Yes Display July, If No move to next step.
10. Check If number is equal to 8 , If Yes Display August, If No move to next step.
11. Check If number is equal to 9 , If Yes Display September, If No move to next step.
12. Check If number is equal to 10 , If Yes Display October, If No move to next step.
13. Check If number is equal to 11 , If Yes Display November, If No Display December.

**Q3) Implement an Algorithm for making a simple calculator with all the operators (+,-,\*,/,%).**

**Solution:**

1. Ask The User to Enter First Number
2. Ask the User to Enter Operator
3. Ask the User to Enter Second Number
4. If operator = +
5. Process “Sum = First Number + Second Number”
6. Print “Sum”
7. Else if operator = -
8. Process “Difference= First Number – Second Number”
9. Print “ Difference”
10. Else if operator = \*
11. Process “Product = First Number \* Second Number”
12. Print “Product”
13. Else if operator = /
14. Process “Quotient= First Number / Second Number”
15. Print “Quotient”
16. Else if operator = %
17. Process “ Remainder = First Number % Second Number “
18. Print “Remainder”
19. Else Print “ Invalid Operator”