**Flowcharts:**

**Q:1**

**Flowchart:**

**Q:2**

**Pseudocode:**

**Q:1**

1.Start

2.Input number 1

3.Input number 2

4. Input number 3

5.If number 1 < number 2 and number < number 3:

* Print” Number 1 is the smallest number”

6. Else If number 2 < number 1 and number 2 < number 3:

* Print “Number 2 the smallest number”

7.Else

* Print “Number 3 is the smallest number”

8.End

**Pseudocode:**

**Q:2**

1.Start

2.Input arithmetic operator from “\*, /”

3. Input number 1

4.Input number 2

5. If (OPERATOR == ‘\* ‘)

* Set multiple = Number 1 \* Number 2
* Print “Multiple”

6. Else If (OPERATOR == ‘/ ‘)

* Set quotient = Number 1 / Number 2
* Print “Quotient”

7. End

**Algorithms:**

**Q:1**

1.Ask the user to enter a positive integer.

2.if the integer is equal to 1, display that 1 is not a prime number.

3.If the integer is equal to 2, display that 2 is a prime number.

4. If the integer is equal to 3, display that 3 is a prime number.

5.If the integer is greater than 3 and even, display that the integer is not a prime number.

6.Keep dividing the integer with odd numbers increasing from 3 to the square root of the integer.

7.If the integer is divisible by any of the numbers, display that the integer is not a prime number.

8.Otherwise, display that the integer is a prime number

**Algorithms:**

**Q:2**

1.Ask the user to enter a day of the year from between 1 and 365, including 1 and 365.

2.If the user enters 1, display “Monday”.

3. If the user enters 2, display “Tuesday”.

4. If the user enters 3, display “Wednesday”.

5. If the user enters 4, display “Thursday”.

6. If the user enters 5, display “Friday”.

7. If the user enters 6, display “Saturday”.

8. If the user enters 7, display “Sunday”.

9.If the use enters a number greater than 7:

* Subtract the day number by 1(since the January 1st is not the 0th day) and then divide the result by 7, the remainder of the division should give us an index number. i.e.; remainder(index) 0 corresponds to 1(Monday), remainder(index) 1 corresponds to 2(Tuesday) and so on and so forth until remainder(index) 6 correspond to 7(Sunday).
* Display the corresponding day of the week.

**Algorithms:**

**Q:3**

1.Ask the user to enter two positive integers.

* If the user enters 0, display ‘Invalid Input” and return to step 1.

2.Let’s call the larger integer a and the smaller integer b.

3.While ‘b’ is not equal to zero:

* Divide ‘a’ by ‘b’.
* Note that the division is stopped before the quotient becomes a decimal number and the remainder is expressed as the modulus.
* Replace ‘a’ with the current value of ‘b’ and replace ‘b’ with the remainder of the division in the previous step.

5.Repeat this process until the remainder(b) becomes zero.

6.As the remainder(b) becomes zero the leftover value of ‘a’ will be the greatest common divisor (GCD) of the original to integers.

7.Display the leftover value of ‘a’ for the user as the GCD.

8.End