

# Tutorial 1

1. Draw flowchart for simulating a simple calculator that is performing addition, subtraction, multiplication and division.
2. Write an algorithm and draw flowchart for generating first  $n$  ( $n > 2$ ) Fibonacci terms. (Fibonacci terms are 0, 1, 1, 2, 3, 5, 8, 13, 21 .....).
3. Write an algorithm and draw flowchart for checking whether a given integer number by user is prime number or not.
4. Write an algorithm and draw flowchart for generating all prime numbers between MIN and MAX. Where ( $MIN < MAX$ )
5. Draw flowchart for printing multiplication table for all numbers from 1 to 10.
6. Draw flowchart and write the algorithm for finding the smallest of three numbers.
7. Draw a flowchart for checking whether a given number is palindrome or not.
8. What are the advantages and limitations of flowcharting?
9. Draw flowchart for solving quadratic equation for finding all roots (real and equal, real and distinct and complex).
10. Draw flowchart for finding biggest and smallest numbers from set of three numbers.
11. Write a C program to generate following Patterns:

**Pattern1**

```
*****
*****
*****
*****
*****
```

**Pattern2**

```
*****
*****
***
**
*
```

**Pattern3**

```

  *
  **
 ***
****
*****
```

**Pattern4**

```
*****
****
***
**
*
```

**Pattern5**

```

  *
  **
 ***
****
*****
****
***
**
*
```

**Pattern6**

```

  *
 * *
* * *
```

Pattern6

```

      *
     **
    ***
   ****
  *****
 *****
*****
*****
*****
*****

```

Pattern7

```

  *
 ***
*****

```

Pattern8

```

1
2 3
4 5 6
7 8 9 10

```

Pattern9

```

10
9 8
7 6 5
4 3 2 1

```

Pattern10

```

  1
 121
12321
1234321

```