1. **While Loop Practice**
2. Write a program to print all the digits of a given number.
3. Sample
4. input - 1234
5. output -
6. 4
7. 3
8. 2
9. 1
10. Explanation
    1. get remainder of input to get last digit - input % 10 will give 4 as remainder
    2. now last was extracted, discard the last digit from the input - input = input / 10 will dicard the last digit 4
    3. repeat the process till input become zero.
11. digit = input % 10;
12. input = input / 10;
13. print the digit
14. Write a program to print sum of all the digits of the given number. Accept number as input from user.
15. Sample run
16. input - 12345;
17. output - 15
18. Explanation
    1. get digits from number one by one - digit = input % 10;
    2. add digit to sum one by one - sum = sum + digit;
    3. now discard the last digit - input = input / 10;
    4. repeat the process till input become zero
19. sum = 0;
20. iteration 1
21. input = 12345;
22. digit = input % 10; // 12345 % 10 -> 5
23. sum = sum + digit; // 0 + 5 -> 5
24. input = input / 10; // 12345 / 10 -> 1234
25. iteration 2
26. input = 1234; // now the input become, 1234, due to first iteration
27. digit = input % 10; // 1234 % 10 -> 4
28. sum = sum + digit; // 5 + 4 -> 9
29. input = input / 10; // 1234 / 10 -> 123
30. iteration 3
31. input = 123; // now the input become, 123, due to last iteration
32. digit = input % 10; // 123 % 10 -> 3
33. sum = sum + digit; // 9 + 3 -> 12
34. input = input / 10; // 123 / 10 -> 12
35. iteration 4
36. input = 12; // now the input become, 12, due to last iteration
37. digit = input % 10; // 12 % 10 -> 2
38. sum = sum + digit; // 12 + 2 -> 14
39. input = input / 10; // 12 / 10 -> 1
40. iteration 5
41. input = 1; // now the input become, 1, due to last iteration
42. digit = input % 10; // 1 % 10 -> 1
43. sum = sum + digit; // 14 + 1 -> 15
44. input = input / 10; // 1 / 10 -> 0
45. Write a program that calculates the sum of all even numbers from 1 to a given number N and print the sum. Accept the number N from user.
46. Implement a program that computes the factorial of a given number N using a loop and print the factorial. Accept the number N from user.
47. Sample
48. N = 5
49. output = 120
50. Explaination
51. 5 factorial => 5 \* 4 \* 3 \* 2 \* 1 => 120
52. Write a program that checks if a given integer inputNumber is prime number, if yes print inputNumber is prime number otherwise print inputNumber is not a prime number. Accept the inputNumber from user.
53. Write a program to print the first N numbers in the Fibonacci sequence. Accept the number N from user. Constrain N >= 0 and N <= 20. (keep value of N small. )
54. Sample
55. N = 10
56. output = 0, 1, 1, 2, 3, 5, 8, 13, 21,34
57. Explanation
58. first trem is 0 (known)
59. second trem is 1 (known)
60. third term = 0 + 1 = 1
61. fourth term = 1 + 1 = 2
62. so on.... next term is sum of last two terms
63. What is Fibonacci Series?
64. The Fibonacci series is the sequence of numbers (also called Fibonacci numbers),
65. where every number is the sum of the preceding two numbers, such that the first two terms are '0' and '1'.
66. In some older versions of the series, the term '0' might be omitted.
67. A Fibonacci series can thus be given as, 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, . . .
68. It can thus be observed that every term can be calculated by adding the two terms before it.
69. Given the first term, F0 and second term, F1 as '0' and '1' respectively,
70. the third term here can be given as,
71. F0 = 0, F1 = 1,
72. F2 = F0 + F1
73. F2 = 0 + 1 = 1
74. Similarly,
75. F3 = 1 + 1 = 2
76. F4 = 2 + 1 = 3
77. F5 = 2 + 3 = 5
78. F6 = 3 + 5 = 8
79. F7 = 5 + 8 = 13
80. and so on
    1. [Reference - cuemath.com](https://www.cuemath.com/numbers/fibonacci-series/)
81. Write a program to print the sum of first N numbers in the Fibonacci sequence. Accept the number N from user. Constrain N >= 0 and N <= 20. (keep value of N small. )
82. N = 8
83. output = 33
84. Explaination
85. 0, 1, 1, 2, 3, 5, 8, 13 fibbonacci series for N = 8
86. sum = 0 + 1 + 1 + 2 + 3 + 5 + 8 + 13 = 33
87. Write a program to check if a given three-digit number N is an Armstrong number if yes, print Armstrong number otherwise print Not an Armstrong number. Accept the three-digit number N from user.
88. Sample
89. Input N = 371
90. output = Armstrong number
    1. Explanation :
    2. An Armstrong number of three digits is an integer such that the sum of the cubes of its digits is equal to the number itself.
    3. 33 + 73 + 13
    4. 27 + 343 + 1 => 371
91. Generate the multiplication table for a given number N up to 10. Accept the number N from user.
92. Write a program to calculate numberpower (number raised to the power) using a loop. Accept the number and power from user.
    1. Sample
    2. number = 2, power = 5
    3. output = 32
    4. Explanation
    5. 25 = 32