

APPLICATIONS BASED ON SIMPLE WHILE AND FOR STRUCTURE

1. Wap in 'C' language to display "C is middle level language" five times.
2. Wap in 'C' language to display "I like 'C' very much!" three times and each after two lines.
3. Wap in 'C' language to display "I like 'C' very much!" continuously until a zero is pressed and each after any key other than zero.
4. Wap in 'C' language to display the counting starting from 1 and up to 30.
5. Wap in 'C' language to display the following format: -

- 1 2 3 Up to 19
- 1 3 5 Up to 19
- 1 4 7 Up to 19

- 19 18 17 Up to 1
- 19 17 15 Up to 1
- 19 16 13 Up to 1

- 2 4 8 Up to 20
- 3 6 9 Up to 30
- 4 8 12 Up to 40

- 20 18 16 Up to 2
- 30 27 23 Up to 3
- 40 38 36 Up to 4

- 1 4 9 Up to 100
- 1 8 27 Up to 1000
- 1 16 81 Up to 10000

- 1 10 100 Up to 1000000000
- 1000000000 Up to 1

- 123456789
- 987654321

6. Wap in 'C' language to accept three numbers calculate and display the sum and average value.
7. Wap in 'C' language to accept thirty numbers calculate and display the sum, product and average value.
8. Wap in 'C' language to accept N numbers calculate and display the sum, product and average value.

9. Wap in 'C' language to accept **N numbers** calculate and display the total count of +^{ve} numbers, --^{ve} numbers and **zeros**.
10. Wap in 'C' language to accept **N numbers** calculate and display the total count of **even** and **odd** numbers.
11. Wap in 'C' language to accept **N numbers** calculate and display the total count of +^{ve} **even** and -^{ve} **odd** numbers.
12. Wap in 'C' language to accept **N characters** one-by-one calculate and display the total count of **digits** and **alphabets**.
13. Wap in 'C' language to accept **N characters** one-by-one calculate and display the total count of **space, backspace, tab, enter, and escape**.
14. Wap in 'C' language as function keys are inputted N times one-by-one display the total count of **F1, F2, and F3** and up to **F12**.
15. Wap in 'C' language as alternatives and shortcut keys like **Alt F4** and **Ctrl C** are inputted N times one-by-one calculate and display the total count of **Alt F, Alt E, Alt V, Alt F4, Ctrl A, Ctrl C, Ctrl X, and Ctrl V**.
16. Wap in 'C' language to accept **three numbers** check and display the **smallest** and **largest** value.
17. Wap in 'C' language to accept **N numbers** check and display the **smallest** and **largest** value.
18. Wap in 'C' language to accept **a number** calculates and display the total count of **digits**.
19. Wap in 'C' language to accept **a number** calculates and display the **sum, product** and **average** of the **digits**.
20. Wap in 'C' language to accept **a number** calculates and display the total count of **alternate digits**.
21. Wap in 'C' language to accept **a number** calculates and display the **sum, product** and **average** of the **alternate digits**.
22. Wap in 'C' language to accept **a number** of maximum 9 digits calculate and display the **sum, product** and **average** of the digits.
23. Wap in 'C' language to accept a number of maximum 9 digits calculate and display the **sum, product** and **average** of the **alternate digits**.
24. Wap in 'C' language to generate even series from 1 to 50.
25. Wap in 'C' language to generate odd series from 1 to 50.
26. Wap in 'C' language to accept a number, display it in reverse order (e.g., 123=>321).

27. Wap in 'C' language to accept a number and find the sum of even alternate digit.
28. Wap in 'C' language to accept a number and the sum of odd alternate digit.
29. Wap in 'C' language to generate a table of any number.
30. Wap in 'C' language to accept a number, check and display whether the number is prime or not.
31. Wap in 'C' language to accept initial and final position and find the prime numbers between the initial and final position.
32. Wap in 'C' language to accept a number, check and display message whether it perfect number or not.
33. Wap in 'C' language to accept initial and final position, print the perfect number between initial and final position.
34. Wap in 'C' language to accept a number, check and display whether the number is Armstrong or not.
35. Wap in 'C' language to accept initial and final position, print armstrong number between initial and final position.
36. Wap in 'C' language to display the **factorial of 4**.
37. Wap in 'C' language to accept a number and display its **factorial** value.
38. Wap in 'C' language to accept **two numbers** check and display the Highest Common Factor or Greatest Common Factor.
39. Wap in 'C' language to accept **two numbers** check and display the Lowest Common Factor.
40. Wap in 'C' language to display 20 terms of Fibonacci series . (i.e 0,1,1,2,3,.....).
41. Wap in 'C' language to find the sum of even and odd numbers between 1 to 100 separately.
42. Wap in 'C' language to accept a positive integer value, determine and print its binary equivalent.
43. Wap in 'C' language to accept a positive value, convert into hexadecimal equivalent.
44. Wap in 'C' language to accept a **number** and its **exponent** calculate and display the **power**.
45. Wap in 'C' language to display the total count of **Leap Years** between 1000 and 2009.
46. Wap in 'C' language to calculate and display the sum of the following series: -
 - $1 + 2 + 3 + \dots +$ Up to N terms.
 - $1^2 + 2^2 + 3^2 + \dots +$ Up to N terms.
 - $1^3 + 2^3 + 3^3 + \dots +$ Up to N terms.
 - $1 + X^2 + X^3 + \dots +$ Up to N terms.

- $1 + X^2 + X^4 + \dots +$ Up to N terms.
- $1 + 1/X + 1/X^2 + \dots +$ Up to N terms.
- $X + X^2/2! + X^3/3! + \dots +$ Up to N terms.
- $X - X^3/3! + X^5/5! - \dots +$ Up to N terms.
- $X^2/2! - X^4/4! + X^6/6! - \dots +$ Up to N terms.
- $1 - X^2/2! + X^4/4! - X^6/6! + \dots -$ Up to N terms.

47. Wap in 'C' language to calculate and display the **Fibonacci** series up to n terms.

[Hint: 0 1 1 2 3 5 8 13 21]

48. Write a program in 'C' to generate the following given series:-

- | | | | | | |
|-------|-------|----------|-------|-----------|----------|
| a. 1 | b. 1 | c. 11111 | d. 5 | e. 0 | f. 12345 |
| 12 | 21 | 1111 | 55 | 101 | 23451 |
| 123 | 321 | 1 11 | 555 | 21012 | 34512 |
| 1234 | 4321 | 11 | 5555 | 3210123 | 45123 |
| 12345 | 54321 | 1 | 55555 | 432101234 | 51234 |

- | | | |
|-------|----------------------------------|--------------|
| g. | h. | i. |
| ***** | 1 | 1 |
| **** | 2 3 2 | 2 6 |
| *** | 3 4 5 4 3 | 3 7 10 |
| ** | 4 5 6 7 6 5 4 | 4 8 11 13 |
| * | 5 6 5 8 9 8 7 6 5 | 5 9 12 14 15 |
| | 6 7 8 9 10 11 10 9 8 7 6 | |
| | 7 8 9 10 11 12 13 12 11 10 9 8 7 | |

- | | | | | | |
|-------|-------|-------|-------|-------|-------|
| j. * | k. * | o. * | n. * | m. * | l. * |
| ** | ** | *** | *** | *** | *** |
| *** | *** | ***** | ***** | ***** | ***** |
| **** | **** | ***** | ** | ** | *** |
| ***** | ***** | ***** | * | * | * |