## List of loop programming exercises

1. [Write a C program to print all natural numbers from 1 to n.](https://codeforwin.org/2015/06/c-program-to-print-natural-numbers-from-1-to-n.html) - using [while loop](https://codeforwin.org/2015/06/c-program-to-print-numbers-from-1-to-n-using-while-loop.html)
2. [Write a C program to print all natural numbers in reverse (from n to 1)](https://codeforwin.org/2015/07/c-program-to-print-all-natural-numbers-in-reverse.html). - using [while loop](https://codeforwin.org/2015/07/c-program-to-print-all-natural-numbers.html)
3. [Write a C program to print all alphabets from a to z.](https://codeforwin.org/2015/06/c-program-to-print-a-to-z.html) - using [while loop](https://codeforwin.org/2015/07/c-program-to-print-all-alphabets-using-while-loop.html)
4. [Write a C program to print all even numbers between 1 to 100.](https://codeforwin.org/2015/06/c-program-to-print-all-even-numbers-between-1-to-100.html) - using [while loop](https://codeforwin.org/2015/06/c-program-to-print-all-even-numbers-using-while-loop.html)
5. [Write a C program to print all odd number between 1 to 100.](https://codeforwin.org/2015/06/c-program-to-print-all-odd--numbers-between-1-to-100.html)
6. [Write a C program to find sum of all natural numbers between 1 to n.](https://codeforwin.org/2015/06/c-program-to-calculate-sum-of-first-n-natural-numbers.html)
7. [Write a C program to find sum of all even numbers between 1 to n](https://codeforwin.org/2015/06/c-program-to-print-sum-of-all-even-numbers-between-1-to-n.html).
8. [Write a C program to find sum of all odd numbers between 1 to n](https://codeforwin.org/2015/06/c-program-to-print-sum-of-all-odd-numbers-between-1-to-n.html).
9. [Write a C program to print multiplication table of any number](https://codeforwin.org/2015/06/c-program-to-print-table-of-any-number.html).
10. [Write a C program to count number of digits in a number](https://codeforwin.org/2016/10/c-program-to-count-number-of-digits-in-number.html).
11. [Write a C program to find first and last digit of a number](https://codeforwin.org/2015/06/how-to-find-first-and-last-digit-of-any-number.html).
12. [Write a C program to find sum of first and last digit of a number.](https://codeforwin.org/2015/06/c-program-to-find-sum-of-first-and-last-digit-of-number.html)
13. [Write a C program to swap first and last digits of a number](https://codeforwin.org/2016/01/c-program-to-swap-first-and-last-digit-of-number.html).
14. [Write a C program to calculate sum of digits of a number](https://codeforwin.org/2015/06/c-program-to-calculate-sum-of-digits.html).
15. [Write a C program to calculate product of digits of a number](https://codeforwin.org/2015/06/c-program-to-calculate-product-of-digits.html).
16. [Write a C program to enter a number and print its reverse](https://codeforwin.org/2015/06/c-program-to-find-reverse-of-any-number.html).
17. [Write a C program to check whether a number is palindrome or not.](https://codeforwin.org/2015/06/c-program-to-check-whether-number-is-palindrome-or-not.html)
18. [Write a C program to find frequency of each digit in a given integer](https://codeforwin.org/2016/10/c-program-to-count-frequency-of-digits-in-number.html).
19. [Write a C program to enter a number and print it in words.](https://codeforwin.org/2015/06/c-program-to-print-numbers-in-words.html)
20. [Write a C program to print all ASCII character with their values](https://codeforwin.org/2015/06/c-program-to-print-ascii-values-of-all-characters.html).
21. [Write a C program to find power of a number using for loop](https://codeforwin.org/2015/07/c-program-to-find-power-of-number-using-for-loop.html).
22. [Write a C program to find all factors of a number](https://codeforwin.org/2015/06/c-program-to-print-factors-of-any-number.html).
23. [Write a C program to calculate factorial of a number](https://codeforwin.org/2015/06/c-program-to-calculate-factorial-of-any-number.html).
24. [Write a C program to find HCF (GCD) of two numbers](https://codeforwin.org/2015/06/c-program-to-find-hcf-of-two-numbers.html).
25. [Write a C program to find LCM of two numbers](https://codeforwin.org/2015/06/c-program-to-find-lcm-of-two-numbers.html).
26. [Write a C program to check whether a number is Prime number or not.](https://codeforwin.org/2015/06/c-program-to-check-prime-number.html)
27. [Write a C program to print all Prime numbers between 1 to n.](https://codeforwin.org/2015/06/c-program-to-print-all-prime-numbers-between-1-to-n.html)
28. [Write a C program to find sum of all prime numbers between 1 to n](https://codeforwin.org/2015/06/c-program-to-find-sum-of-all-prime.html).
29. [Write a C program to find all prime factors of a number](https://codeforwin.org/2015/06/c-program-to-find-all-prime-factors-of-any-number.html).
30. [Write a C program to check whether a number is Armstrong number or not.](https://codeforwin.org/2015/06/c-program-to-check-armstrong-number.html)
31. [Write a C program to print all Armstrong numbers between 1 to n.](https://codeforwin.org/2015/06/c-program-to-print-first-n-armstrong-numbers.html)
32. [Write a C program to check whether a number is Perfect number or not](https://codeforwin.org/2015/06/c-program-to-check-perfect-number.html).
33. [Write a C program to print all Perfect numbers between 1 to n](https://codeforwin.org/2015/06/c-program-to-print-all-perfect-numbers-between-1-to-n.html).
34. [Write a C program to check whether a number is Strong number or not](https://codeforwin.org/2015/06/c-program-to-check-strong-number.html).
35. [Write a C program to print all Strong numbers between 1 to n](https://codeforwin.org/2015/06/c-program-to-print-all-strong-numbers.html).
36. [Write a C program to print Fibonacci series up to n terms](https://codeforwin.org/2015/06/fibonacci-series-in-c-program.html).
37. [Write a C program to find one's complement of a binary number](https://codeforwin.org/2015/08/c-program-to-find-ones-complement-of-binary-number.html).
38. [Write a C program to find two's complement of a binary number](https://codeforwin.org/2015/08/c-program-to-find-twos-complement-of-binary-number.html).
39. [Write a C program to convert Binary to Octal number system](https://codeforwin.org/2015/08/c-program-to-convert-binary-to-octal-number-system.html).
40. [Write a C program to convert Binary to Decimal number system](https://codeforwin.org/2015/08/c-program-to-convert-binary-to-decimal-number-system.html).
41. [Write a C program to convert Binary to Hexadecimal number system](https://codeforwin.org/2015/08/c-program-to-convert-binary-to-hexadecimal-number-system.html).
42. [Write a C program to convert Octal to Binary number system](https://codeforwin.org/2015/08/c-program-to-convert-octal-to-binary-number-system.html).
43. [Write a C program to convert Octal to Decimal number system](https://codeforwin.org/2015/08/c-program-to-convert-octal-to-decimal-number-system.html).
44. [Write a C program to convert Octal to Hexadecimal number system](https://codeforwin.org/2015/08/c-program-to-convert-octal-to-hexadecimal-number-system.html).
45. [Write a C program to convert Decimal to Binary number system](https://codeforwin.org/2015/08/c-program-to-convert-from-decimal-to-binary-number-system.html).
46. [Write a C program to convert Decimal to Octal number system](https://codeforwin.org/2015/08/c-program-to-convert-decimal-to-octal-number-system.html).
47. [Write a C program to convert Decimal to Hexadecimal number system](https://codeforwin.org/2015/08/c-program-to-convert-decimal-to-hexadecimal-number-system.html).
48. [Write a C program to convert Hexadecimal to Binary number system](https://codeforwin.org/2015/08/c-program-to-convert-hexadecimal-to-binary-number-system.html).
49. [Write a C program to convert Hexadecimal to Octal number system](https://codeforwin.org/2015/09/c-program-to-convert-hexadecimal-to-octal-number-system.html).
50. [Write a C program to convert Hexadecimal to Decimal number system](https://codeforwin.org/2015/09/c-program-to-convert-hexadecimal-to-decimal-number-system.html).
51. [Write a C program to print Pascal triangle upto n rows](https://codeforwin.org/2015/07/c-program-to-print-pascal-triangle.html).
52. [Star pattern programs - Write a C program to print the given star patterns.](https://codeforwin.org/2015/07/star-patterns-program-in-c.html)
53. [Number pattern programs - Write a C program to print the given number patterns](https://codeforwin.org/2016/06/number-pattern-programs-in-c.html).

List of star pattern programming exercises

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Square Star Pattern

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Hollow Square Star Pattern

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Hollow Square Star Pattern with Diagonal

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Rhombus Star Pattern

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Hollow Rhombus Star Pattern

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Mirrored Rhombus Star Pattern

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Hollow Mirrored Rhombus Star Pattern

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Right Triangle Star Pattern

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Hollow Right Triangle Star Pattern

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Mirrored Right Triangle Star Pattern

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Hollow Mirrored Right Triangle Star Pattern

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Inverted Right Triangle Star Pattern

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Hollow Inverted Right Triangle Star Pattern

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Inverted Mirrored Right Triangle Star Pattern

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Hollow Inverted Mirrored Right Triangle Star Pattern

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Pyramid Star Pattern

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Hollow Pyramid Star Pattern

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Inverted Pyramid Star Pattern

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Hollow Inverted Pyramid Star Pattern

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Half Diamond Star Pattern

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Mirrored Half Diamond Star Pattern

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Diamond Star Pattern

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Hollow Diamond Star Pattern

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Right Arrow Star Pattern

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Left Arrow Star Pattern

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Plus Star Pattern

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X Star Pattern

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List of Number pattern programming exercises

Square number patterns

11111

11111

11111

11111

11111

Number pattern 1

11111

00000

11111

00000

11111

Number pattern 2

01010

01010

01010

01010

01010

Number pattern 3

11111

10001

10001

10001

11111

Number pattern 4

11111

11111

11011

11111

11111

Number pattern 5

10101

01010

10101

01010

10101

Number pattern 6

11011

11011

00000

11011

11011

Number pattern 7

10001

01010

00100

01010

10001

Number pattern 8

01110

10001

10001

10001

01110

Number pattern 9

11111

22222

33333

44444

55555

Number pattern 10

12345

12345

12345

12345

12345

Number pattern 11

12345

23456

34567

45678

56789

Number pattern 12

1 2 3 4 5

6 7 8 9 10

11 12 13 14 15

16 17 18 19 20

21 22 23 24 25

Number pattern 13

55555

54444

54333

54322

54321

Number pattern 14

12345

23455

34555

45555

55555

Number pattern 15

12345

23451

34521

45321

54321

Number pattern 16

12345

21234

32123

43212

54321

Number pattern 17

5 5 5 5 5 5 5 5 5

5 4 4 4 4 4 4 4 5

5 4 3 3 3 3 3 4 5

5 4 3 2 2 2 3 4 5

5 4 3 2 1 2 3 4 5

5 4 3 2 2 2 3 4 5

5 4 3 3 3 3 3 4 5

5 4 4 4 4 4 4 4 5

5 5 5 5 5 5 5 5 5

Number pattern 18

1 2 3 4 5

16 17 18 19 6

15 24 25 20 7

14 23 22 21 8

13 12 11 10 9

Number pattern 19

Triangle Easy Number Patterns

1

22

333

4444

55555

Number pattern 20

55555

4444

333

22

1

Number pattern 21

11111

2222

333

44

5

Number pattern 22

5

44

333

2222

11111

Number pattern 23

1

12

123

1234

12345

Number pattern 24

12345

1234

123

12

1

Number pattern 25

1

21

321

4321

54321

Number pattern 26

54321

4321

321

21

1

Number pattern 27

5

54

543

5432

54321

Number pattern 28

54321

5432

543

54

5

Number pattern 29

5

45

345

2345

12345

Number pattern 30

12345

2345

345

45

5

Number pattern 31

1

23

345

4567

56789

Number pattern 32

56789

4567

345

23

1

Number pattern 33

13579

3579

579

79

9

Number pattern 34

Triangle 0,1 Easy Number Patterns

1

10

101

1010

10101

Number pattern 35

1

00

111

0000

11111

Number pattern 36

1

01

010

1010

10101

Number pattern 37

1

11

101

1001

11111

Number pattern 38

Triangle Hard Number Patterns

1

123

12345

1234567

123456789

Number pattern 39

1

24

135

2468

13579

Number pattern 40

1

131

13531

1357531

135797531

Number pattern 41

2

242

24642

2468642

2468108642

Number pattern 42

1

121

12321

1234321

123454321

Number pattern 43

1

32

4543

567654

67898765

Number pattern 44

1

2 3

4 5 6

7 8 9 10

11 12 13 14 15

Number pattern 45

1

21

123

4321

12345

Number pattern 46

1

23

4567

89123456

7891234567891234

Number pattern 47

1 1

12 21

123 321

1234 4321

1234554321

Number pattern 48

1

2 6

3 7 10

4 8 11 13

5 9 12 14 15

Number pattern 49

1

2 4

7 11 16

22 29 37 46

56 67 79 92 106

Number pattern 50

1

3 2

4 5 6

10 9 8 7

11 12 13 14 15

Number pattern 51

1

22

333

2222

11111

Number pattern 52

N = 12345

12345

1234

123

12

1

Number pattern 53

N = 12345

12345

2345

345

45

5

Number pattern 54

Diamond Number Patterns

1

12

123

1234

12345

1234

123

12

1

Number pattern 55

1

123

12345

1234567

123456789

1234567

12345

123

1

Number pattern 56

1

121

12321

1234321

123454321

1234321

12321

121

1

Number pattern 57

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\*1\*

\*121\*

\*12321\*

\*1234321\*

\*123454321\*

\*1234321\*

\*12321\*

\*121\*

\*1\*

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Number pattern 58

Tricky Number Patterns

1 1

2 2

3 3

4 4

5

4 4

3 3

2 2

1 1

Number pattern 59