List of star pattern programming exercises

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

Square Star Pattern

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

Hollow Square Star Pattern

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

Hollow Square Star Pattern with Diagonal

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

Rhombus Star Pattern

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

Hollow Rhombus Star Pattern

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

Mirrored Rhombus Star Pattern

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

Hollow Mirrored Rhombus Star Pattern

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

Right Triangle Star Pattern

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

Hollow Right Triangle Star Pattern

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

Mirrored Right Triangle Star Pattern

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

Hollow Mirrored Right Triangle Star Pattern

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

Inverted Right Triangle Star Pattern

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

Hollow Inverted Right Triangle Star Pattern

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

Inverted Mirrored Right Triangle Star Pattern

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

Hollow Inverted Mirrored Right Triangle Star Pattern

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

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

Pyramid Star Pattern

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

Hollow Pyramid Star Pattern

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

Inverted Pyramid Star Pattern

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

Hollow Inverted Pyramid Star Pattern

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

Half Diamond Star Pattern

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

Mirrored Half Diamond Star Pattern

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

Diamond Star Pattern

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

Hollow Diamond Star Pattern

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

Right Arrow Star Pattern

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

Left Arrow Star Pattern

```
     +
     +
     +
     +
+++++++++
     +
     +
     +
     +
```

Plus Star Pattern

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

X Star Pattern

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

Eight Star Pattern

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

Heart Star Pattern

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

Heart Star Pattern with Name

List of Number Patterns Programming

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

*

1

121

12321

1234321

123454321

1234321

12321

121

1

*

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

C Programming Questions of Arrays

1. Find the minimum and maximum value from an 1-D integer Array

2. Find the sum of all integers in an 1-D integer Array.

3. Find the average of all the numbers in an integer Array.

4. Find the sum of even and odd numbers in an 1-D integer Array.

5. Find the sum of all prime numbers in an 1-D integer Array.

6. Display the array of integers in reverse order.

7. Sort an 1-D integer array

8. Count the number of occurrences of an integer in an 1-D integer array.

9. Copy the duplicate elements of an 1D integer array into another array.

10. Copy an 1-D integer array into another 1-D integer array.

11. Create two 1-D integer arrays A and B and sum the corresponding elements of the two arrays

    and store it into the third array.

12. Create two 1-D integer arrays A and B and check they are equal or not.

13. Find the sum of numbers stored in even and odd indexes in an array.

14. Create a character array and count the number of vowels and consonants and numbers in the

    array.

15. Create two character array A and B and concatenate the two arrays into third array C.

16. Write a C program to read and print elements of array.

17. Write a C program to print all negative elements in an array.

18. Write a C program to find sum of all array elements. - using recursion.

19. Write a C program to find maximum and minimum element in an array..

20. Write a C program to find second largest element in an array.

21. Write a C program to count total number of even and odd elements in an array.

22. Write a C program to count total number of negative elements in an array.

23. Write a C program to copy all elements from an array to another array.

24. Write a C program to insert an element in an array.

25. Write a C program to delete an element from an array at specified position.

26. Write a C program to count frequency of each element in an array.

27. Write a C program to print all unique elements in the array.

28. Write a C program to count total number of duplicate elements in an array.

29. Write a C program to delete all duplicate elements from an array.

30. Write a C program to merge two array to third array.

31. Write a C program to find reverse of an array.

32. Write a C program to put even and odd elements of array in two separate array.

33. Write a C program to search an element in an array.

34. Write a C program to sort array elements in ascending or descending order.

35. Write a C program to sort even and odd elements of array separately.

36. Write a C program to left rotate an array.

37. Write a C program to right rotate an array.

List of matrix programming exercises

38. Write a C program to add two matrices.

39. Write a C program to subtract two matrices.

40. Write a C program to perform Scalar matrix multiplication.

41. Write a C program to multiply two matrices.

42. Write a C program to check whether two matrices are equal or not.

43. Write a C program to find sum of main diagonal elements of a matrix.

44. Write a C program to find sum of minor diagonal elements of a matrix.

45. Write a C program to find sum of each row and column of a matrix.

46. Write a C program to interchange diagonals of a matrix.

47. Write a C program to find upper triangular matrix.

48. Write a C program to find lower triangular matrix.

49. Write a C program to find sum of upper triangular matrix.

50. Write a C program to find sum of lower triangular matrix.

51. Write a C program to find transpose of a matrix.

52. Write a C program to find determinant of a matrix.

53. Write a C program to check Identity matrix.

54. Write a C program to check Sparse matrix.

55. Write a C program to check Symmetric matrix.