



Rajiv-0920 now



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Code

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Basic Simple C Programs

1. C Program to Display The Size of Different Data Types

Data Type	Size (bytes)	Range	Format Specifier
int	2	-2,147,483,648 to 2,147,483,647	%d
long int	4	-2,147,483,648 to 2,147,483,647	%ld
float	4	1.2E-38 to 3.4E+38	%f
double	8	1.7E-308 to 1.7E+308	%lf
long double	12	3.4E-4932 to 1.1E+4932	%Lf
char	1	-128 to 127	%c

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2. Write a program to accept values of two numbers and print their addition, subtraction, multiplication, division.

Addition: $x + y$;

Subtraction: $x - y$;

multiplication: $x * y$;

division: $x / y;$

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3. Write a program to accept a number from user and print it's square & cube in C language

Square: $x * x$

Cube: $x * x * x$

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4. Write a program to accept two values a & b and interchange their values in C language

Before Interchange value: $a = 12; b = 15$

After Interchange value: $a = 15; b = 12$

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5. Write a program to accept roll no & marks of 3 subjects of a student, Calculate total 3 subjects and average in c language

Average : $Sanskrit + Hindi + Math / 3$

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6. Print following outputs: [http:\www.kodegod.com\new](http://www.kodegod.com/new) in C language

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7. Area and Circumference of a Circle

Area of the Circle is: πr^2

Circumstances of the Circle are: $2\pi r$

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8. Print Ascii Value of the Character

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9. Write a program to print area of a triangle

$\text{Triangle} = 0.5 * \text{Base} * \text{Height}$

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10. Convert a Person's Name in Abbreviated

Name: Ghanendra Pratap Singh

Abbreviated Name: G. P. Singh

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11. C Program For Calculate Simple Interest

$\text{Simple Interest} = (\text{Principal Amount} * \text{Rate of Interest} * \text{Time}) / 100;$

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12. Write a program to accept a name and basic salary of an employee calculate and display the gross salary Program in C.

$\text{Gross Salary} = \text{Basic_Salary} + \text{HRA} + \text{Other_Allowance}.$

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13. Calculate Percentage of 5 Subjects

$\text{percentage} = ((\text{sanskrit} + \text{hindi} + \text{math} + \text{english} + \text{accountancy}) / 500) * 100$

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14. C Program For Converting Temperature Celsius Into Fahrenheit

$\text{Fahrenheit} = ((9/5) * \text{Celsius}) + 32$ or you can use `1.8` in place of `9/5`

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15. First Three Powers (N, N * N, N * N * N) Without Using Power Function

Three Powers: (N, N * N, N * N * N)

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16. Write a C program input a number to compute the perimeter and area of a rectangle.

Perimeter of the rectangle = $2(\text{height} + \text{width})$;

Area of Rectangle = $\text{height} * \text{width}$;

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17. Write a C program to accept 3 characters and print the sum of their [ascii](#).

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18. Write a C program to convert specified days into years, weeks and days.

Note: Ignore leap year.

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19. Write a C program to calculate the distance between the two points

Formula:- $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$

Test Data :

```
Input x1: 25
Input y1: 15
Input x2: 35
Input y2: 10
```



Expected Output:

```
Distance between the said points: 11.1803
```



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20. Write a C program to read an amount (integer value) and break the amount into smallest possible number of bank notes.

Test Data :

Input the amount: 375



Expected Output:

```
There are:
3 Note(s) of 100.00
1 Note(s) of 50.00
1 Note(s) of 20.00
0 Note(s) of 10.00
1 Note(s) of 5.00
0 Note(s) of 2.00
0 Note(s) of 1.00
```



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21. Write a C program to convert a given integer (in seconds) to hours, minutes and seconds.

Test Data :

```
Input seconds: 25300
Expected Output:
There are:
H:M:S - 7:1:40
```



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22. Write a C program to convert a given integer (in millimeters) to kilometers, meters and centimeters.

```
1 centimeter = 10 millimeters.
1 meter = 100 centimeters.
1 meter = 1,000 millimeters.
1 kilometer = 1,000 meters.
```



Test Data :

Input no. of days: 2535220



Expected Output:

```
2.53 kilometers
2535.22 Meters
253522.0 Centimeters
```



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23. Write a C program that accepts two item's weight (floating points' values) and number of purchase (floating points' values) and calculate the average value of the items.

Test Data :

```
Weight - Item1: 15  
No. of item1: 5  
Weight - Item2: 25  
No. of item2: 4
```



Expected Output:

```
Average Value = 19.444444
```



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24. Program to show swap of two number

```
i) using three variable  
ii) without using third variable.  
iii) swap within a single line.
```



Test Data :

```
Input two number a and b: 5 10
```



Expected Output:

```
a = 10 and b = 5
```



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25. Write a program to display last digit of a number. Number is entered through keyboard.

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26. Write a program to calculate sum of the digits of three digit number.

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27. Write a program to print profit and profit percentage. Selling price and cost price is given by user.

formula :-

$$profit = selling - cost$$

$$profitPercentage = \frac{profit}{cost} * 100$$

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28. Input a number and change the sign.

Test Data:

```
input number : 10
input number : -15
```



Expected Output:

```
Sign Changed number = -10
Sign Changed number = 15
```



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29. Input two number and display quotient and remainder.

Test Data:

```
input number : 98 4
```



Expected Output:

```
quotient = 24
remainder = 2
```



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30. Input a 5 digit number and calculate the sum of last and first digit number.

Test Data:

```
number : 12345
```



Expected Output:

```
sum = 6
```



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31. Input a 3 digit number and reverse it.

Test Data:

```
number = 123
```



Expected Output:

```
reverse number = 321
```



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32. WAP to calculate the remainder of 2 numbers without using % operator.

Test Data:

```
Enter 2 number: 10 5
```



Expected Output:

```
Remainder = 0
```



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33. WAP. to SWAP (interchange) three numbers.

```
i) using four variable
```



```
ii) without using four variable.
```

```
iii) swap within a single line.
```

Test Data:


```
Enter 3 number : 5 10 15
```



Expected Output:

```
changed number = 15 5 10
```



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34. WAP. to Print the range of a number. E.g. number 78 is between 70 and 79, 102 is between 100 and 109.

Test Data:

```
Enter a number : 78
```



```
Enter a number : 102
```



Expected Output:

```
78 number is between 70 and 79
```



```
102 number is between 100 and 109
```

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🔗 **35. WAP. to merge three number. E.g. a= 1, b= 2, c = 8 is 128.**

Test Data:

```
Enter 3 number: 1 2 3
```



Expected Output:

```
merge number = 123
```



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If/Else Statement

1. Write a program to accept a number and print if the number is Positive/Negative in C language

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2. Write a program to accept a number from user and print if it is even or odd in C language

HINT: Even number is divisible by 2 and generates a remainder of 0

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3. Write a program to find greater between two numbers.

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4. Write a program to accept three numbers from user and print them in ascending and descending order in C language

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5. Write a program to calculate roots of a quadratic equations in C language

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6. Write a program to accept roll number ,and marks for three subjects, print total marks and average, also print grade by considering following conditions

Avg \geq 60 Grade A

Avg $<$ 60, Avg \geq 50 Grade B

Avg $<$ 50, Avg \geq 40 Grade C Grade F.

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7. Write a Program to accept user's marital status, gender and age to check if he/she is eligible for marriage or not.

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8. Check Character Is Vowel or Consonant

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9. A Character Is an Alphabet or Not

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10. C Program to Check Uppercase or Lowercase or Digit or Special Character

Hint: [ASCII](#) value of the digit is between 48 to 57 and lowercase characters have ASCII values in the range of 97 to 122, and uppercase is between 65 and 90.

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11. Leap Year Program in C Using IF-ELSE

Leap Year Examples:

- 1992: Leap Year
- 2002: Not a Leap Year
- 2016: Leap Year
- 2100: Not a Leap Year

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12. Given Date Month and the Year Is Correct or Not Using If-Else

Valid Date Examples:

- 09-03-2002
- 01-01-2023
- 31-12-2025

Invalid Date Examples:

- 29-02-2023
- 32-12-2023
- 31-03-2023

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Loops C Programs

1. C Program to Reverse a Number Using FOR Loop

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2. Write a c program to check whether a given number is an Armstrong number or not.

Example: 153 is an Armstrong number

$$153 = (1 * 1 * 1) + (5 * 5 * 5) + (3 * 3 * 3)$$

$$\text{where: } (1 * 1 * 1) = 1 \quad (5 * 5 * 5) = 125 \quad (3 * 3 * 3) = 27$$

$$\text{So: } 1 + 125 + 27 = 153$$

153 is an Armstrong number

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3. Calculate the Sum of n Natural Numbers Using the While Loop

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4. Write a C Program to Print the Multiplication Table of N

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5. Fibonacci Series Program in C Using DO While Loop

Fibonacci Series: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34. Fibonacci Series is up to 10 Elements.

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6. GCD of Two Numbers in C | Greatest Common Divisor Program

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7. Program to Find LCM of Two Numbers in C Using While Loop

Formula

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8. Palindrome Program in C Using While Loop

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9. Count the Number of Digits of an Integer Using the While Loop

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10. Find a Generic Root of a Number Using While Loop

For Example: If user input number is 12345, then we add all the individual digits of the number i.e., $1 + 2 + 3 + 4 + 5 = 15$. We got 15. Now we add individual digits of number 15 i.e., $1 + 5 = 6$. So Generic Root of number 12345 is 6.

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11. C Program to Print The Calendar of a Month of 31 Days

Output

Enter Total Numbers of Days in a Month:31



Enter 0 for Monday:

Enter 1 for Tuesday:

Enter 2 for Wednesday:

Enter 3 for Thursday:

Enter 4 for Friday:

Enter 5 for Saturday:

Enter 6 for Sunday:

Enter First Day of the month 0 to 6:5

Mon	Tue	Wed	Thu	Fri	Sat	Sun
-	-	-	-	-	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	26	27	28	29	30
31						

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12. Check Whether a Number Is Divisible by 11 Using (Vedic Maths)

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13. Denomination of an Amount Using While Loop



Logic :- The Logic Behind we have to divide a money by Above Money lets take a example Suppose money is 16108 then follow the Step We are taking a example of Indian Currency In present

Step 1:- Then First we divide 16108 by 2000 then we get 8 ,2000 rs notes then go to step 2

Step 2:- After divide 2000 we get a remainder 108 The we know that 108 is not divisible by 500 so go to next step

Step 3:- Now divide 108 by 100 then we get 1 ,100 rs note now remainder is 8 go to next step

Step 4:- 8 is divisible by 50 and 20 nor 10 so we escape now go to next step

Step 5:- Now divide 8 by 5 we get a 1 ,5 rs notes and remainder is 3 so go to next step

Step 6:- Now divide 3 by 2 we get 1 ,2 rs notes and remainder is 1 so follow the next step

Step 7:- This is a Last step divide 1 by 1 we get zero remainder now print the total no of denomination needed and along with total no of count require to fulfill a requirement

So for 16108 You Need to

No.

$8 * 2000 = 16000$

$1 * 100 = 100$

$1 * 5 = 5$

$1 * 2 = 2$

$1 * 1 = 1$

Total =12 Notes For minimum Transaction

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14. Write a Program to print numbers 1 to n using while loop in C language

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15. Write a Program to print first n even numbers in C language

HINT: Even number is divisible by 2 and generates a remainder of 0

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16. Write a Program to print first n odd numbers in C language

HINT: Odd number which is not divisible by "2". An odd number always ends in 1, 3, 5, 7, or 9.

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17. Write A Program To Accept A Number From User And Print If It Is Prime Or Not In C Language

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18. Write a Program to accept a number and print sum of it's digits in C language

Ex: 153 Sum of its digit is 9

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19. Write A Program To Accept A Number From User And Print It's Factorial In C Language

factorial of 5 is: $5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$

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20. Write a program to accept a number and print prime numbers between 2 and n in C language

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21. Write a program to print digits, alphabets in capital and lower case in C language

ASCII

Digits

0 1 2 3 4 5 6 7 8 9

Uppercase Alphabets

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Lowercase Alphabets

a b c d e f g h i j k l m n o p q r s t u v w x y z

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22. Write a program to print out ASCII chart on a single screen (all 256 characters from 0 to 255) in a tabular form. The ASCII code should be followed by the corresponding character in C language

ASCII

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23. Program To Print Triangular Number Series Till n

Triangular Number Example: 15 is Triangular Number because it can be obtained by $1+2+3+4+5+6$ i.e. $1+2+3+4+5+6=15$

List of Triangular Numbers: 1, 3, 6, 10, 15, 21, 28, 36, 45, 55, 66, 78, 91, 105, 120, 136, 153, 171, 190, 210, 231, 253, 276, 300, 325, 351, 378, 406, 435, 465, 496, 528, 561, 595, 630, 666,

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24. C Program to Check Whether a Number is Triangular or Not

Triangular Number Example: 15 is Triangular Number because it can be obtained by $1+2+3+4+5+6$ i.e. $1+2+3+4+5+6=15$

List of Triangular Numbers: 1, 3, 6, 10, 15, 21, 28, 36, 45, 55, 66, 78, 91, 105, 120, 136, 153, 171, 190, 210, 231, 253, 276, 300, 325, 351, 378, 406, 435, 465, 496, 528, 561, 595, 630, 666,

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25. Write a C program that read 5 numbers and sum of all odd values between them.

Test Data :

```
Input the first number: 11
Input the second number: 17
Input the third number: 13
Input the fourth number: 12
Input the fifth number: 5
```



Expected Output:

```
Sum of all odd values: 46
```



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Pattern

1. Write A Program To Print Following Outputs In C Language

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



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2. Write A Program To Print Following Outputs In C Language

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



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3. Write A Program To Print Following Outputs In C Language

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



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4. Write A Program To Print Following Outputs In C Language

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



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5. Write A Program To Print Following Outputs In C Language

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



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6. Write A Program To Print Following Outputs In C Language

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



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7. Write A Program To Print Following Outputs In C Language

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



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8. Write A Program To Print Following Outputs In C Language

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



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9. Write A Program To Print Following Outputs In C Language

```
1
1 2
1 2 3
1 2 3 4
```



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10. Write A Program To Print Following Outputs In C Language

```
1
2 2
3 3 3
4 4 4 4
```



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11. Write A Program To Print Following Outputs In C Language

```
    A
  B B B
C C C C C
D D D D D D D
```



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12. Write A Program To Print Following Outputs In C Language

```
A B C D E E D C B A
A B C D   D C B A
A B C     C B A
A B       B A
A         A
```



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13. Write A Program To Print Following Outputs In C Language

```
1
1 1
```



```
1 2 1
1 2 3 1
1 2 3 4 1
1 2 3 4 5 1
```

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14. Write A Program To Print Following Outputs In C Language

```
x
x x x
x x x x x
x x x x x x x
x x x x x x x x x
```



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15. Write A Program To Print Following Outputs In C Language

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



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16. Write A Program To Print Following Outputs In C Language

```
1
2 3
4 5 6
7 8 9 10
11 12 13 15
```



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17. Write A Program To Print Following Outputs In C Language

```
1
0 1
1 0 1
0 1 0 1
1 0 1 0 1
```



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18. Write A Program To Print Following Outputs In C Language

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



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19. Write A Program To Print Following Outputs In C Language

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20. Write A Program To Print Following Outputs In C Language

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



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21. Write A Program To Print Following Outputs In C Language

```
  1
 2 2
3 3 3
4 4 4 4
5 5 5 5 5
```



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22. Write A Program To Print Following Outputs In C Language

```
  1
2 1 2
```



```
3 2 1 2 3
4 3 2 1 2 3 4
5 4 3 2 1 2 3 4 5
```

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23. Write A Program To Print Following Outputs In C Language

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



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24. Write A Program To Print Following Outputs In C Language

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



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25. Write A Program To Print Following Outputs In C Language

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



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26. Write A Program To Print Following Outputs In C Language

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



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