ALL IN ONE QUESTION BANK OF C PROGRAMMING
100+ QUESTIONS

1. Write a program to check whether the year is leap year or not.
2. Write a program to calculate the HCF of a number using recursive function.
3. Write a program to check whether a string has odd or even numbers of characters without using string function.
4. Differentiate between compiler and interpreter.
5. Differentiate between keywords and identifiers.
6. Mention the rules of naming a valid identifier.
7. Difference between while loop and do-while loop.
8. Write a program to check whether the character is upper case or lower case.
9. Differentiate between run-time error and syntax-error. Also give example.
10. Write a program to convert decimal to binary and binary to decimal.
11. Write a program to check the number is amicable or not.
12. Write a program to find the factors of a number.
13. Write a program to check the number is prime or composite.
14. Explain the purpose of algorithm in problem solving. Write algorithm to find the factorial of a number also write the pseudo code of it.
15. Draw the flow chart-
    a. sum of n numbers
    b. largest number of an array.
16. Algorithm and pseudo code and program of-
    a. Binary search
    b. Linear search
    c. Bubble sort
17. Write a program to find the sum of two 2d array.
18. Write a program to find the product of two 2d array.
19. Write a program to delete an element from an array.
20. Explain oprerators. Which operator is also known as ternary operator. Also write a program to find the greatest between 2 number using ternary operator.
21. Difference between structure and union.
22. Steps of opening a file in c.
23. Explain pointer to pointer. Why do we use it.
24. Difference between arguments and parameters.
25. What is actual parameter and formal parameter.
26. Write a program to display fibonacci series.
27. Differentiate between array and structure in c.
28. Pridict the output-
    a) Printf(“%d”,10&20);
    b) Printf(“%d”,10^20);
    c) Printf(“%d”,10|20);

d) #define add(x) (x*x*x)
#include<stdio.h>
Int main()
{
int a=10, b=20, c=add(a+b);
printf("%d",c);
}

e) If(77){
Printf("i am lucky");
}
Else{
Printf(" no i am not!");
}

f) If(88){
Printf("i am flash fastest man");
}
Else{
Printf(" i am hulk");
}

g) #include<stdio.h>
For(;;)
{
Printf("hello world");
}

29. What is the use of continue in loop?
30. What is the string function used to reverse a string?
31. What are preprocessors?
32. Recursion uses which data structure?
33. What header file is used for string operation?
34. What is nested if-else?
35. What is the use of goto statements?
36. What is linear searching in an array?
37. What is macro?
38. What is the value of the following if a=2
    a. printf("%d",--a);
    b. printf("%d",++a);
    c. printf("%d",a--);
39. What is structure? What is array of structures? Show with an example.
40. Write a program to find roots of a quadratic equation.
41. Draw a flowchart to evaluate factorial of a number.
42. What is conditional operator?
43. Predict the output:

```
#include<stdio.h>
int main()
{
```

```
int a[5]={1,2,3,4,5};
int i;
for (i=0;i<5;i++);
if((char)a[i]==’5’)
printf(“%d\n”,a[i]);
else
printf(“FAIL\n”);
}
```

44. What is statement in C? Give an example of a ternary statement.
45. Suppose i is an integer variable, f is a floating point variable and c is a character variable having values 7,5.5 and ‘w’ respectively:
    What are the values of the following expressions?
    a. (i>=6)&&(c==’w’)
    b. (c!=’p’)||((i+f)<=10)
    c. int a=6,b=8,c;
       c=(a++)+(++b)+(++b);
       What will be the values of a,b,c after the execution of the above statement?
46. Is the use of goto desirable in C? Explain.
47. How does an append mode differ from a write mode?
48. Write a program in C that reads a line of text on a character by character basis, and then displays the character in reverse order.
    Eg. Birds can fly → ylf nac sdriB.
49. Illustrate with a proper example the use of loops that contain continue statements.
50. Write a program that reads in an one dimensional character array, converts all the elements to upper case and display the converted array.(Do not use any library functions)
51. What is the difference between do-while() and while() statements? Explain with suitable examples.
52. What is a function? What are the advantages of using functions? What is the purpose of return statement.
53. Explain the call-by-value and call-by-reference mechanism with example.
54. What is array of pointers? Explain with examples.
55. Write a program to insert an element in an array.
56. Mr. X walks 20ft and 8inch in a narrow road and covers it in 10 mins. From Mr.X ending point Mr. Y starts walking and cover a distance 32ft and 6inch in 15 mins. Write a C program that will calculate total distance covered and time taken by Mr.X and Mr.Y together using structure.
57. In a class of 20,15 students were sitting in random order science teacher Mr. Sachin came to class and wanted to find whether student name Mr. Saurav came to class or not, illustrate a solution using C program to help Mr. Sachin for the search.
58. Predict the output of the following:

```
#include<stdio.h>
void fun(int n)
{
  If(n>0)
  {
     printf(“%d”,n);
     fun(n-1);
     fun(n-1);
```

```
    }
}
int main()
{
    fun(3);
    return 0;
}
```

59. Differentiate between gets() and scanf().
60. Differentiate between puts() and printf().
61. What do you mean by prototype of a function?
62. What is the use of exit() function?
63. Assume two strings S1= “HELLO” ,S2=”WORLD”. Write a program to do the following:
    a. Find the length of S1.
    b. Concatenate S1 and S2.
    c. Find the occurrence of a character ‘A’ in S1.
    d. Display the total length of the concatenation.
    e. Copy the string S2 in S1.
    f. Reverse the string S2.
    g. Convert S1 and S2 in lower case.
64. What is the use of typedef in C program? Mention one use in structures.
65. Explain the following:
    a. Head recursion
    b. Tail recursion
66. What do you mean by sparse matrix? Write a C program demonstrating the implementation of sparse matrix.
67. What is the return type of printf() and scanf()?
68. What are the key features in C programming language?
69. The equality operator is represented by _____.
70. What do you mean by format specifier? Give examples of any TEN format specifiers used in C.
71. ** (FOR BTECH) Differentiate between stack and queue. Also mention the various operations of stack and queue.
72. ** (FOR BTECH) Write a menu driven program to insert 5 elements in stack and remove one element from it.
73. ** (FOR BTECH) Write a menu driven program to insert 5 elements in queue and remove one element.
74. What is forward jump and backward jump in goto statement. Demonstrate the use of label and goto with a C program.
75. Smart Bazaar, a subsidiary of reliance wants to store the following : product name, id and price. Write a program in C to help reliance in storing the following details such that if they want to search a product via name or id, they should be able to get the details.
76. GIVE THE OUTPUT OF THE FOLLOWING PROGRAMS:
77. #include<stdio.h>

```
 Int main(){

Int num = 070;

printf (“\n num =%d”, num);
```

```
printf("\n num =%o" num);

printf("\n num =%x", num);

return 0;

}
```

78.
```
#include<stdio.h>

main(){

char a,b,c;

printf("\n Enter three characters :");

scanf("%c %c %c", &a, &b, &c);

a++;b++;c==;

printf("\n a = %c  b = %c and d = %c", a,b,c);

return 0;

}
```

79.
```
#include<stdio.h>

{

   Int x=10,y=20,res;

   res =y++ + x++

   res += ++y + ++x;

  printf("\n x = %d  y =  %d   RESULT =   %d", x,y,res);

   return 0;

}
```

80.
```
#include<stdio.h>

{

   Int x=10,y=20,res;

    res = x+++b;

    printf("\n x =  %d  y = %d  RESULT =  %d", x,y,res);

    return 0;

    }
```

81. When Does Dangling else Problem Occurs?
82. In a pre test loop, the test condition is checked after the body of the loop. [True/FALSE]
83. When will you prefer to work with a switch statement?
84. Write a program to print the Floyd's triangle.

85. Write a program to generate the following pattern:

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

86. Write a program to generate the following pattern :

```
$ * * *  $
* $    $ *
*    $   *
* $    $ *
$ * *  * $
```

87. Change the following do while loop into a for loop. Also re-write the code by changing the do while loop into a for loop.

```
int num;
printf("\n Enter Any Number. Enter 999 to stop:  ");
scanf("%d", &num);
do
{
printf("%d", x);
printf("\n Enter Any Number. Enter 999 to stop:  ");
scanf("%d", &num);
}while(num != 999);
```

88. C does not permit nested switch statements.[TRUE/FALSE]
89. Differentiate between Function declaration, definition and calling.
90. Differentiate between Local and Global variable.
91. Draw and explain The Von Neuman Architecture.
92. Mention all the function use for reading data from file.
93. What are the various mode while using a file.
94. Write a program to add two floating point numbers. The result should contain only two digit after the decimal, Using Pointers.
95. Write a program to print Hello World, Using Pointers.
96. Write a program to find the biggest of three numbers, using Pointers.
97. An array is used to refer the multiple memory location having the same name.[TRUE/FALSE]
98. An array need not to be declared before being used.[TRUE/FALSE]
99. An array stores all its data elements in non-consecutive memory location.[TRUE/FALSE]
100. A two-dimensional array contains data of two different types.
101. Write a program to build an array of 100 random numbers in the range 1 to 100. Perform the following operations on the array:
    a. Count the number of elements that are completely divisible by 3.
    b. Count the number of odd elements.
    c. Find the smallest element in the array.
    d. Find the position of the largest value in the array.
102. Write a C program to find sum of series of the following series for n number of terms. 1+x+x^2+…….+x^n

103. Debug the following programs and also mention which type of error is occurred and mention the line number where the error occurs:

I.

```
#include<stdio.h>

int main()
{
int a,,c,d,e,f;
scanf("%d%d,&a,&b);
c=a+b;
d=a-b;
e=a*b;
f=b/a;
printf("Addition=%f\n",c);
printf("Substaction=%d\n",d);
printf("Multiplication=%d\n",e);
printf("Division=%d\n",f);
}
```

II.

```
#include<stdio.h>
int main(
{
float KB;
printf("Enter the size in Kilo Bytes:\n");
scan("%d",&KB);
printf("Size in Mega Bytes:%f\n",KB*0.001);
printf("Size in Giga Bytes:%f\n",KB*0.000001);
printf("Size in Tera Bytes:%f\n",KB*0.000000001);
}
```

III.

```
#include<stdio.h>
int main()
{
 float year;
printf("Enter Year:");
scanf("%d",&year);
if((year%4!=0)||((year%400==0)||(year%100==0))){
printf("The year is a leap year");
}
else{
printf("The year is not a leap year");
```

IV.

```
#include<stdio.h>
int main(){
        int num;
        printf("ENTER THE NUMBER : ");
        scanf("%d", %num);
        if(num<=0)
                if(num=!0){
                        printf("NUMBER IS NEUTRAL");
```

```
                }
                else{
                        printf("NUMBER IS NEGATIVE");
                }

        }
        else{
                print("NUMBER IS POSITIVE");
        }
}
```