

**SECTION-1**

**Simple C Programs: Write Algorithm , Pseudocode and draw flowchart for the First 5 programs in this Section**

1. Write a C program to perform input/output of all basic data types.
2. Write a C program to enter two numbers and find their sum.
3. Write a C program to enter two numbers and perform all arithmetic operations.
4. Write a C program to enter length and breadth of a rectangle and find its perimeter.
5. Write a C program to enter length and breadth of a rectangle and find its area.
6. Write a C program to enter radius of a circle and find its diameter, circumference and area.
7. Write a C program to enter length in centimeter and convert it into meter and kilometer.
8. Write a C program to enter temperature in Celsius and convert it into Fahrenheit.
9. Write a C program to enter temperature in Fahrenheit and convert to Celsius
10. Write a C program to convert days into years, weeks and days.
11. Write a C program to find power of any number  $x^y$ .
12. Write a C program to enter any number and calculate its square root.
13. Write a C program to enter two angles of a triangle and find the third angle.
14. Write a C program to enter base and height of a triangle and find its area.
15. Write a C program to calculate area of an equilateral triangle.
16. Write a C program to enter marks of five subjects and calculate total, average and percentage.
17. Write a C program to enter P, T, R and calculate Simple Interest.
18. Write a C program to find maximum between three numbers using conditional operator.
19. Swap two numbers using bitwise operators
20. Swap two numbers a) using temporary variable b) without using temporary variable

**SECTION-2**

**Programs on Conditional Statements: Write Algorithm , Pseudocode and draw flowchart for the program numbers 1,2, 37,38,40 in this Section**

21. Write a C program to find maximum between two numbers
22. Write a C program to find maximum between three numbers. using nested if...else
23. Write a C program to check whether a number is negative, positive or zero.
24. Write a C program to check whether a number is divisible by 5 and 11 or not.
25. Write a C program to check whether a number is even or odd.
26. Write a C program to check whether a year is leap year or not.
27. Write a C program to check whether a character is alphabet or not.
28. Write a C program to input any alphabet and check whether it is vowel or consonant.
29. Write a C program to accept a coordinate point in a XY coordinate system and determine in which quadrant the coordinate point lies

in switch case char, put

30. Write a C program to input any character and check whether it is alphabet, digit or special character.
31. Write a C program to print day of week name using switch case.
32. Write a C program print total number of days in a month using switch case.
33. Write a C program to check whether an alphabet is vowel or consonant using switch case.
34. Write a C program to find maximum between two numbers using switch case.
35. Write a C program to check whether a number is even or odd using switch case.
36. Write a C program to check whether a number is positive, negative or zero using switch case.
37. Write a C program to create Simple Calculator using switch case.
38. Write a C program to calculate the root of a Quadratic Equation
39. Write a C program to read temperature in centigrade and display a suitable message according to temperature state below :
  - Temp < 0 then Freezing weather
  - Temp 0-10 then Very Cold weather
  - Temp 10-20 then Cold weather
  - Temp 20-30 then Normal in Temp
  - Temp 30-40 then Its Hot
  - Temp >=40 then Its Very Hot
40. Write a program in C to calculate and print the Electricity bill of a given customer. The customer id., name and unit consumed by the user should be taken from the keyboard and display the total amount to pay to the customer. The charge are as follow :

Unit	Charge/unit
upto 199	@1.20
200 and above but less than 400	@1.50
400 and above but less than 600	@1.80
600 and above	@2.00

If bill exceeds Rs. 400 then a surcharge of 15% will be charged and the minimum bill should be of Rs. 100/-

Write the program using Else..if ladder

SECTION-III (Draw flowchart and Write pseudocode, algorithm for question numbers 41,44, 46  
50,51,55,56,60)

Programs using GOTO, BREAK

- ✓41. Write a program to read and print different numbers and stop the process once a -ve number is given as input( use got and break)
- ✓42. Write a program to print ASCII equivalents for all lower case alphabets
- 43. Write a program to print multiplication table for a given number
- 44. Write a program to print sum of digits of a given number
- 45. Write a program to find square root of a given number , if number is -ve print that finding square root is not possible

Programs using WHILE

- 46. Write a program to find sum and average of n different numbers
- 47. Write a program to perform arithmetic operations in menu driven approach
- 48. Write a program to find binary equivalent of a given decimal number
- ✓49. Write a program to find GCD of two numbers
- ✓50. Write a program to check whether a given number is prime or not

Programs using DO..WHILE

- 51. Write a program to generate Fibonacci series below 100
- 52. Write a program to print the given number in words( eg.234=two three four)
- 53. Write a program to check whether a given number is perfect or not
- 54. Write a program to check whether a given number is amstrong number or not
- 55. Write a program to evaluate COS(x) series

Programs using FOR

- ✓56. Write a program to find factorial of a given number
- 57. Write a program to display numbers from 1 to 30 skipping all numbers that multiples of 5 using CONTINUE
- ✓58. Write a program to check whether a given number is palindrome or not
- 59. . Write a program to find decimal equivalent for a given binary number
- 60. . Write a program to find sum and count of even and odd numbers among 'n' different numbers



Programs Using NESTING of Loops

61. . Write a program to print all prime numbers below 100

62. . Write a program to print all palindromes between 100 to 1000

63. . Write a program to find sum of digits of a given number down to single digit (eg; 786= 21=3)

64. . Write a program to print twin primes below 100

65. . Write a program to check whether a given number is Fibonacci prime or not

66. . Write a program to print

```
1
2 3
4 5 6
7 8 9 10
```

67. . Write a program to print

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

68. Write a program to print

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

69. Write a program to print

			1		
		1		1	
	1		2		1
1		3		3	1
1	4		6		4

70. Write a program to print

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

107 70517  
1702

(1 < 2)

## SECTION-IV

### Programs on One-Dimensional Arrays

71. Write a program to find mean, median for given array elements.
72. Write a program to delete prime numbers from given array , print the remaining elements of an array
73. Write a program to find minimum and maximum elements in an array
74. Write a program to find second largest and second smallest elements in given array
75. Write a program to find sum and average for a given number of array elements
76. Write a program to insert an element at a given position in an array
77. Write a program to delete an element from a specified position
78. Write a program to merge two arrays
79. Write a program to count number of occurrences of each element in an array

Eg: if array content is : 5 6 7 6 8 7 4 7

5 occurs 1  
6 occurs 2  
7 occurs 3  
8 occurs 1  
4 occurs 1

80. Write a program to print all unique elements in an array

Sort-function on array  
Void Array-Sort (int \*array,  
int n)

### Programs on Two-Dimensional Arrays

81. Write a program to find sum of two matrices
82. Write a program to perform matrix multiplication
83. Write a program to check whether a given matrix is symmetric or not
84. Write a program to check whether a given matrix is unit matrix or not
85. Write a program to check whether a given matrix is upper triangular or lower triangular matrix

### Programs on Strings

(without string handling functions)

86. Write a program to reverse a string *Strrev*
87. Write a program to copy one string into another string *strcpy( , )*
88. Write a program to compare two string *strcmp(a,b)*
89. Write a program to check whether a given string is palindrome or not
90. Write a program to sort the alphabets given in a string(dictionary order)
91. Write a program to find the number of spaces, characters, lines, words in a given paragraph
92. Write a program to check whether two strings are anagrams or not
93. Write a program to insert a substring at a specified position in a given string

94. Write a program to find number of occurrences of a given substring in a string
95. Write a program to convert all lower case letters to upper case and vice-versa

(using string handling functions)

96. Write a program to read and print table of strings
97. Write a program to sort table of strings
98. Write a program to check whether a given string is found or not in table of strings
99. Write a program to find the check whether two string are equal or not
100. Write a program to check whether a given string is palindrome or not

**Programs on sorting ,Searching and roots finding**

101. Write a program to perform linear search
102. Write a program to perform binary search
103. Write a program to perform bubble sort
104. Write a program to perform selection sort
105. Write a program to perform insertion sort
106. Write a program to find root of equation using bisection method
107. Write a program to find root of equation using newton Raphson method



#### **Unions:**

161. Write a program to illustrate concept of Unions

#### **Dynamic Memory Allocation:**

162. Write a program to find sum of 'n' elements using malloc()

163. Write a program to store and print 'N' students details (Roll No, ,Name, Percentage) and print back using malloc()

164. Write a program to find largest element using calloc()

165. Write a program to perform linear search using calloc()

#### **Programs on Files:**

166. Write a program to create and extract content from a text file

167. Write a program to copy content of one file into another file

168. Write a program to create a text file and count the number of characters, lines and words

169. Write a program to create a numeric file and separate odd numbers into ODDFILE, even numbers into EVENFILE

170. Write a program to create a numeric file and count the total number of prime numbers in it

171. Write a program to write a string into a file and extract half of the content of the string(using fputs() and fgets())

172. Write a program to store 'N' students details (Name, RollNo., Branch, Percentage) in formatted form into a file, and extract the same and print(using fscanf() and fprintf())

173. Write a program to store 'N' students details (Name, RollNo., Branch, Percentage) in formatted form into a file, and extract the same and print( using fread() and fwrite())

174. Write a program to store and array in file and copy the same into another array and print(using fread() and fwrite())

175. Write a program to demonstrate r+ mode

176. Write a program to demonstrate w+ mode

177. Write a program to demonstrate a+ mode

#### **Error Handling functions:**

178. Write a program to demonstrate feof()

179. Write a program to demonstrate ferror()

#### **Random File Accessing:**

180. Write a program to find the length of file using ftell()

- 181. Write a program to create a text file and replace every third character with '#'
- 182. Write a program to create a text file and store the file content in reverse form in another file.
- 183. Write a program to create a text file and change every word first letter to capital case

**Command Line Arguments:**

- 184. Write a program to find sum and average of array elements using recursion
- 185. Write a program to find the largest of three numbers
- 186. Write a program to find GCD of two numbers
- 187. Write a program to create a text file
- 188. Write a program to read content from a text file
- 189. Write a program to copy content of one file into another
- 190. Write a program to check whether a given string is palindrome or not