

Course: C and Cpp

Course Code:

Session: 2019-20

Duration: Self Paced (4 months)

Assessment procedures: Proctored certification Exam (100%)

Basic Level

1) First C Program

- -Header Files
- example: #include <stdio.h>
- main()
- Curly braces { }
- printf()
- semicolon ;
- Compiling a C program
- example: gcc filename.c -o output parameter
- Executing a C program
- example: ./output parameter
- Errors

2) First C++ Program

- Header files
- --example: #include <iostream>
- main()
- Curly braces { }
- -cout<<
- semicolon ;
- Compiling a C++ program
- example: g++ filename.cpp -o output parameter
- Executing a C program
- example: ./output parameter

3) Tokens in C and C++

- Data types, constants, identifiers
- Keywords
- example: if, break, else
- Constants
- Data types
- example: int, float, char, double
- Format specifiers
- example: %d, %f, %c, %lf
- Range of data types
- Variables
- Identifier
- Errors

4) Functions in C and C++

- What is a function
- Syntax for declaration of a function
- Function with arguments
- example: return-type function-name(parameter);
- Function without arguments
- example: return-type function-name;
- Calling a function
- Errors

5) Scope of Variables in C and C++

- Introduction
- Syntax of declaring a variable
- example: data-type var-name;
- Syntax for initializing a variable
- example: data-type var-name = value;
- Scope of variables
- Global variable
- Local variable
- Error

6) If And Else If statement in C and C++

- What are Statements.
- Syntax for if and
- If-else Statement
- Errors

7) Nested if and switch statement in C and C++

- Nested if statement.
- Switch statement.
- Syntax for nested-if statement
- Syntax for switch statement
- break statement
- Comparison between nested if-else and switch statement
- Errors

8) Increment and Decrement Operators in C and C++

- Increment Operator
- example: ++
- Postfix increment
- example: a++
- Prefix increment
- example: ++a
- Decrement Operator
- example: --
- Postfix decrement

- example: a--
- Prefix decrement
- example: --a
- Typecasting
- Errors

9) Arithmetic Operators in C and C++

- Arithmetic Operators
- Addition Operator
- example: a + b
- Subtraction Operator
- example: a - b
- Multiplication Operator
- example: a * b
- Division Operator
- example: a \ b
- Modulus Operator
- example: a % b
- Errors

10) Relational Operators in C and C++

- Double Equal to
- example: a == b
- Not Equal to
- example: a != b
- Greater Than
- example: a > b
- Less Than
- example: a < b
- Greater than Equal To
- example: a >= b
- Less Than Equal To
- example: a <= b
- Errors

11) Logical Operators in C and C++

- And &&
- Or ||
- Not !
- Errors

Intermediate level

12) Loops in C and C++

- Loops
- Syntax for while and do-while loop
- Comparison of while and do-while loop
- Syntax for

- for loop
- Errors

13) Arrays in C and C++

- What are arrays
- 1-D Arrays
- Syntax for Declaration of arrays
- example: data type array_name [size];
- Syntax for Initialization of arrays
- example: data type array_name [size]=value;
- Accepting values from the user
- Errors

14) Working with 2-D Arrays in C and C++

- What are 2-D Arrays.
- Range of arrays
- Syntax for Declaration of 2-D arrays
- example: data type array_name[row][column];
- Syntax for initialization of 2-D arrays
- example: data type array_name[row][column]=
- {
- {row-val},{col-val}
- };
- Errors

15) Strings in C and C++

- What is a string
- Syntax for declaring a string
- Syntax for initializing a string
- To read a string from keyboard
- Errors

16) String Library Functions in C and C++

- What are string library functions.
- Types of string library functions
- Strcpy
- Strlen
- Strcmp
- Strcat
- Errors

Advanced level

17) Working with Structures in C and C++

- Introduction
- Syntax of structures
- Declaration and initialization

- Declaration of structure variable
- Accessing structure variables

18) Understanding Pointers in C and C++

- Introduction
- Syntax of Pointer
- example: `int *iptr;`
- Declaration
- example:
- `int a; (integer a) int *aptr; (pointer to an integer *aptr) aptr = &a; (aptr set to address of a)`
Address Pointer
- Errors

19) Function call in C and C++

- types of function calls
- function pass by value
- function pass by reference

20) File Handling in C

- File handling functions
- Opening a File closing a file
- example: `fopen, fclose`
- Reading data from a File

List of students enrolled

#	First Name	Last Name
1	Anshu	Verma
2	Ayush	Jangir
3	Bhavya	Bhatnagar
4	Daksh	Sharma
5	Ishita	Vaid
6	Jyoti	Sharma
7	Kiran	Solanki
8	Lakshya	Gupta
9	Maharshi	Bhatnagar
10	Mahima	Dariyani
11	Mahima	Sharma
12	Manan	Sharma
13	Mudit	Kukreti
14	Nakshatra	Bhardwaj
15	Nitin	Chittoria
16	Piyush	Gupta
17	Pooja	Chaudhary
18	Rajeev	Sharma

19	Ritika	Agarwal
20	Sabhyata	Agarwal
21	Sangeeta	Sharma
22	Saumya	Gautam
23	Shivam	Gaur
24	Shubhi	Samaria
25	Siddharth	Rawat
26	Himanshu	Shekhar
27	Parikshit	Rathore
28	Aaditya	Gautam
29	Ankit	Yadav
30	Ansh	Mehta
31	Bahadur	Choudhary
32	Manish	Saxena
33	Anjali	Mukherji
34	Anmol	Kumar
35	Antima	Agarwal
36	Arun	Sharma
37	Atul	Rao
38	Ayush	Jajodia
39	Dheeraj	Meena
40	Divyanshu	Acharya
41	Ekansh	Chaturvedi
42	Gaurav	Upadhyay
43	Hemant	Chouhan
44	Hidanshu	Sikri
45	Khushi	Garg
46	Krishan	Kumawat
47	Kunal	Kaushik
48	Kunal	Sharma
49	Md	Shamshad
50	Nilesh	Dadheech
51	Nitesh	Jangid
52	Paritosh	Ajmera
53	Purva	Agarwal
54	Rahul	Kumar
55	Rishabha	Mandawariya
56	Sanskriti	Khandelwal
57	Saurabh	Sharma
58	Shubham	Jaiman
59	Shweta	Shrawani
60	Yash	Gaur
61	Yash	Soni
62	Yatharth	Varshney
63	Yogesh	Dabodiya
64	Naman	Gupta

