

# UNIT-1

1. Write a program to illustrate the structure of c++?
2. Write a program to declare and initialize variables in c++?
3. Write a program using constant values?
4. Write a c++ program to perform various operators?
5. Write a program using scope access operator?
6. Write a program to check whether the given number is even or odd?
7. Write a c++ program to swap two given numbers with and without using extra variable?
8. Write a program to find whether the given number is perfect square or not?
9. Write a c++ program to find whether a given number is palindrome or not? 10.
10. Write a c++ program to check whether a given number is Armstrong number or not?
11. Write a c++ program to find the area of square, triangle, circle and rectangle?
12. Write a c++ program to find the factorial of a given number?
13. Write a c++ program to print Fibonacci series up to given number?
14. Write a c++ program to calculate simple interest?

15. Write a c++ program to check whether a given year is leap year or not?
16. Write a c++ program to calculate sum of n natural numbers, sum of squares of n natural numbers, sum of cubes of n natural numbers?
17. Write a c++ program to find largest of two numbers and largest of three numbers?
18. Write a c++ program to print the factors of a given number?
19. Write a c++ program to check whether a given number is perfect number or not?
20. Write a c++ program to find the L.C.M of given numbers?
21. Write a c++ program to find the G.C.D of given numbers?
22. Write a c++ program to find the power of a number?
23. Write a c++ program to find prime numbers within two given intervals?
24. Write a c++ program to find Armstrong numbers within two given intervals?
25. Write a c++ program to find perfect numbers within two given intervals?

26. Write a c++ program to find the average of given numbers?
27. Write a c++ program to find the roots of a quadratic equation?
28. Write a c++ program to perform arithmetic operations using switch case?
29. Write a c++ program to print the ASCII value of a character?
30. Write a c++ program to check whether a given number is positive or negative or zero?
31. Write a c++ program to print the size of various data types?
32. Write a c++ program to print half pyramid?
33. Write a c++ program to print pyramid?
34. Write a c++ program to print diamond?
35. Write a c++ program to print reverse half pyramid?
36. Write a c++ program to print reverse pyramid?
37. Write a c++ program to print Floyd triangle?

## UNIT -II

1. Write a program to display message using pre-defined objects?
2. Write a program to accept string through the keyboard and display it on the screen. Use cin and cout statements?
3. Write a program to read two integers and display them. Use cin and cout statements?
4. Write a program to display data using cout statements ?
5. Write a program to display integer , float ,char and string using cout statement?
6. Write a program to input integer ,float ,char and string using cin statement and display using cout statement?
7. Write a program to use different formats of typecasting and display the converted values?
8. Write a program to display data using typecasting ?
9. Write a program to display A to Z alphabets using ASCII values ?
10. Write a program to display addresses of variables in hexadecimal and unsigned integer formats ?
11. Write a program to display string using different syntaxes using operator \*,& with cout statement?
12. Write a program to display the character on the screen using put() function?
13. Write a program to use multiple put() statements with single cout object and display the characters?

- 14. Write a program to read character using get () and display it using put() ?**
- 15. Write a program to read characters using sequence of get() statements and display read characters using sequence of put() statement?**
- 16. Write a program to read and display the string . Use get() and put() functions?**
- 17. Write a program to read characters using read() statement?**
- 18. Write a program to display string using cout .write() statements?**
- 19. Write a program to show the effect if less argument is given than actual string length in the cout . write() statement ?**
- 20. Write a program to read string using getline() function and display it using write() statement?**
- 21. Write a program to display the string using different arguments in write() statement?**
- 22. Write a program to read two strings through the keyboard . concatenate the strings and display the resulting string?**
- 23. Write a program to demonstrate the use of peek() and ignore() functions ?**
- 24. Write a program to demonstrate the use of putback() function?**
- 25. Write a program to demonstrate the use of gcount() function?**

- 26. Write a program to perform the operation with peek() and putback() ?**
- 27. Write a program to set column width and display the capitals at specified position ?**
- 28. Write a program to use both formats of width function and display the result ?**
- 29. Write a program to set precision to two and display the float number ?**
- 30. Write a program to set a number of precision points. Display the results of 22/7 in different precision settings?**
- 31. Write a program to set fill blank spaces with different symbols?**
- 32. Write a program to show the effect of cout.fill()?**
- 33. Write a program to fill the trailing digits of a number by "\*"?**
- 34. Write a program to display the message left and right justified?**
- 35. Write a program to display the number in scientific format with sign?**
- 36. Write a program to convert decimal number to hexadecimal and octal number ?**
- 37. Write a program to display formatted output using manipulators?**
- 38. Write a program to display the given decimal number in hexadecimal and octal format?**

39. Write a program to read number in hexadecimal format using cin statement. display the number in decimal format?
40. Write a program to demonstrate the use of endl manipulator?
41. Write a program to demonstrate the use of flush()?
42. Write a program to create manipulator equivalent to “\t”? use it in the program and format the output?
43. Write a program to display the message using manipulator ?
44. Write a program to with one parameter to display the stream in the middle of the line?
45. Write a program to create manipulator with two arguments?
46. Write a program to declare object of ostream class and display the text on the screen ?
47. Write a program to call member function of ostream class using custom object?
48. Write a program to create object equivalent to cin and perform input operation?

# UNIT – 3

## CLASSES AND OBJECTS

1. Write a program to read two integers through the keyboard. Declare the variables in C++ style.
2. Write a program to display value of uninitialized variable using cout statement.
3. Write a program to display garbage value of a variable.
4. Write a program to initialize more than one variable at a time..
5. Write a program to prove that a variable can be initialized for more than one time..
6. Write a program in C to demonstrate declaration and initialization of a variable..
7. Write a program in C++ to demonstrate dynamic initialization..
8. Write a program to calculate the length of string. Use run-time declaration and initialization of variables.
9. Write a program to use pointers.
10. Write a program to demonstrate user-defined functions.
11. Write a program to declare, initialize an array. Display the elements of an array with their addresses.
12. Write a program to declare struct object, initialize it and display the contents.
13. Write a program to declare anonymous union and access its elements.
14. Write a program to declare enum data type and display their values.
15. Write a program to declare variable with type modifiers, initialize them and display their contents.
16. Write a program to demonstrate wrapping around with unsigned integer.
17. Write a program to demonstrate wrapping around with unsigned integer variable.
18. Write a program to explain new style of typecasting in C++.
19. Write a program to covert float type data to integer. Use the syntaxes of both C and C++.
20. Write a program to show difference of typecasting between C and C++.
21. Write a program to demonstrate implicit type conversion.
22. Write a program to define const variable using const keyword.
23. Write a program to declare constant pointer. Modify the contents of the pointer.
24. Write a program to declare a pointer to array and display the elements.
25. Write a program to declare reference variable to another variable. Display the assigned value using both the variables.
26. Write a program to use scope access operator. Display the various values of the same variable declared at different scope levels.
27. Write a program to allocate memory using new operator.
28. Write a program to display number of bytes occupied by char data type.
29. Write a program to use comma operator in place of semi-colon.
30. Write a program to declare an integer, initialize it and display it. Terminate the statements using comma operator.



31. Write a program to use comma operator in if..else structure as scope indicator.
32. Write a program to use comma operator in for loop to indicate the scope.

## UNIT -4

### CONSTRUCTORS AND DESTRUCTORS

1. Write a program to define a constructor and initialize the class data member variables with constants.
2. Write a program to show that for each object constructor is called separately.
3. Write a program to read values through the keyboard. Use constructor.
4. Write a program to create constructor with arguments and pass the arguments to the constructor.
5. Write a program with multiple constructors for the single class.
6. Write a program to declare default arguments in constructor. Obtain the power of the number.
7. Write a program to pass an object with reference to constructor. Declare and initialize other objects.
8. Write a program to declare constant object. Also, declare constant member function and display the contents of member variables.
9. Write a program to demonstrate execution of constructor and destructor.
10. 10 Write a program to create an object and release them using destructors.
11. Write a program to invoke constructor an destructor.

12. Write a program to define conditional constructor and destructor.
13. Write a program to declare classes within classes and access the variables of both the classes.
14. Write a program to declare multiple qualifier classes and declare an object of every class.
15. Write a program to create anonymous object. Initialize and display contents of member variables.
16. Write a program to declare constructor and destructor as private and call them explicitly.
17. Write a program to initialize member variables using pointers and constructors
18. Write a program to use new and delete operators with constructor and destructor.
19. Write a program to declare class with name main.
20. Write a program to invoke constructor recursively and calculate the triangular number of the entered number.
21. Write a program to declare global object and observe execution of constructor.
22. Write a program to declare object before main( ) and invoke member function.
23. Write a program to declare static member variable. Count number of objects created and destroyed.
24. Write a program to show the difference between local and global object.