



CL-1002

Programming Fundamentals

Lab # 6

Objectives:

- Practice and understanding on basic c++ programs

Note: Carefully read the following instructions (*Each instruction contains a weightage*)

1. There must be a block of comments at start of every question's code by students; the block should contain brief description about functionality of code.
2. Comment on every function about its functionality.
3. Use understandable name of variables.
4. Proper indentation of code is essential.
5. Write a C++ statement(s) for each of the following task one after the other, in the same order.
6. Make a Microsoft Word file and paste all of your C++ code with all possible screenshots of **every task output in MS word and submit .cpp file with word file.**
7. Make separate .cpp files for all tasks and use this format **23F-1234_Task1.cpp.**
8. First think about statement problems and then write/draw your logic on copy.
9. After copy pencil work, code the problem statement on MS Studio C++ compiler.
10. At the end when you done your tasks, attached C++ created files in MS word file and make your submission on Google classroom. (Make sure your submission is completed).
11. Please submit your word file in this format **23F-1234_L1.docx**
12. Do not submit your assignment **after the deadline.**

13. Do not copy code from any source otherwise you will be penalized with negative marks.

Problem: Write c++ code of following programs

1. Write a program to display "Hello World"
2. The following C++ program evaluates various floating-point expressions. Mention the output of the following expressions
 - $5.0 + 3.5$
 - $3.0 + 9.4$
 - $16.3 - 5.2$
 - $4.2 * 2.5$
 - $5.0 / 2.0$
 - $34.5 / 6.0$
 - $34.5 / 6.5$
3. **Escape sequences** in C++ are special sequences of characters that are used to represent



characters that cannot be easily represented directly in a string or character literal. They are preceded by a backslash \ and are followed by a character or a combination of characters. Escape sequences are commonly used in C++ to represent characters like newline, tab, backslash, and more.

Here are some common escape sequences in C++:

- \\ - Represents a backslash character.
- \" - Represents a double quote character.
- \' - Represents a single quote character.
- \n - Represents a newline character.
- \t - Represents a tab character.
- \b - Represents a backspace character.
- \r - Represents a carriage return character.
- \a - Represents an alert (bell) character.

Now use all above escape sequence in the paragraph mentioned below in single statement.

```
Microsoft Visual Studio Debug Console
Hello it's Hannan Farooq
I am student of BS"SE" batch 2023. Following are the list of subjects that I studied in this semester:
PF    English  Physics
I am from "Faisalabad"
```

Note: Define escape sequence in block comments and then explain each escape sequence in single line comment with example for each escape sequence. For block comment use `/* lines... */` and for line comments use `//`

4. Manipulators are functions or objects that are used to modify the formatting and behavior of input and output streams. They are part of the Standard C++ Library and are primarily used to control the presentation of data when reading from or writing to streams, such as `std::cin` for input and `std::cout` for output. Manipulators are often used to control aspects like formatting numbers, specifying field widths, setting precision for floating-point values, and more.

- `setprecision(n)`
- `setw(n)`
- `setfill(ch)`
- `left`
- `right`
- `hex`
- `oct`
- `setbase(n)`

Now make a program to use all manipulators.

Proper text alignment and screenshots will hold extra marks!

Best of luck 😊

You are done with your exercise, submit on classroom at given time.