DAILY ASSESSMENT

Date:	22-06-2020	Name:	Prajwal Kamagethi Chakravarti P L
Course:	C++ Programming	USN:	4AL17EC073
Topic:	Basic Concepts Data Types,Arrays,Pointer	Semester & Section:	6th & B
GitHub Repository:	https://www.github.com/alvas-education-foundation/Prajwal-Kamagethi.git		

FORENOON SESSION DETAILS
Image of session

SOLOLEARN

Data Types, Arrays, Pointers
int, float, double

XP 350

3/3

Can floating point types hold negative numbers?

● Yes

○ No

✓ **Correct!**
46 COMMENTS

→

Q&A   Unlock

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Data Types, Arrays, Pointers

XP 350

1/12 Introduction to Data Types	2/12 int, float, double	3/12 string, char, bool	4/12 Variable Naming Rules
5 questions ✓	3 questions ✓	3 questions ✓	3 questions ✓
5/12 Arrays	6/12 Using Arrays in Loops	7/12 Arrays in Calculations	8/12 Multi-Dimensional Arrays
3 questions ✓	3 questions ✓	1 questions ✓	3 questions ✓
9/12 Introduction to Pointers	10/12 More on Pointers	11/12 Dynamic Memory	12/12 The sizeof() Operator
4 questions ✓	2 questions ✓	5 questions ✓	2 questions ✓
Module 3 Quiz			
8 questions ✓			

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Floating Point Numbers

A **floating point** type variable can hold a real number, such as 420.0, -3.33, or 0.03325. The words floating point refer to the fact that a varying number of digits can appear before and after the decimal point. You could say that the decimal has the ability to "**float**".

There are three different floating point data types: **float**, **double**, and **long double**.

In most modern architectures, a **float** is 4 bytes, a **double** is 8, and a **long double** can be equivalent to a double (8 bytes), or 16 bytes.
For example:

```
double temp = 4.21;
```

Floating point data types are always **signed**, which means that they have the capability to hold both positive and negative values.

289 COMMENTS

1713
Q&A

→

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Type in the missing data types of the variables a, b, c, and d, where a is an integer, b is a double floating-point number, c is a character, and d is a string.

```
int a;
double b;
char
string
```

✓ Correct!
83 COMMENTS

→

Q&A   Unlock   Hint

Report:

1.Welcome to C++

C++ is a general-purpose programming language.

C++ is used to create computer programs. Anything from art applications, music players and even video games!

2.Getting the Tools

You can run, save, and share your C++ codes on our Code Playground, without installing any additional software.

You need both of the following components to build C++ programs.

1. Integrated Development Environment (IDE): Provides tools for writing source code. Any text editor can be used as an IDE.

2. Compiler: Compiles source code into the final executable program. There are a number of C++ compilers available. The most frequently used and free available compiler is the GNU C/C++ compiler.

Various C++ IDEs and compilers are available. We'll use a free tool called Code::Blocks, which includes both an IDE and a compiler, and is available for Windows, Linux and MacOS.

To download Code::Blocks, go to http://www.codeblocks.org/, Click the Downloads link, and choose "Download the binary release".

Choose your OS and download the setup file, which includes the C++ compiler (For Windows, it's the one with mingw in the name).

3.Comments

Comments are explanatory statements that you can include in the C++ code to explain what the code is doing.

The compiler ignores everything that appears in the comment, so none of that information shows in the result.

A comment beginning with two slashes (//) is called a single-line comment. The slashes tell the compiler to ignore everything that follows, until the end of the line.

Multi-Line Comments

Comments that require multiple lines begin with /* and end with */

You can place them on the same line or insert one or more lines between them.

Using Comments

Comments can be written anywhere, and can be repeated any number of times throughout the code.

Within a comment marked with /* and */, // characters have no special meaning, and vice versa. This allows you to "nest" one comment type within the other.

4.Variables

Creating a variable reserves a memory location, or a space in memory for storing values. The compiler requires that you provide a data type for each variable you declare.

C++ offer a rich assortment of built-in as well as user defined data types.

Integer, a built-in type, represents a whole number value. Define integer using the keyword int.

C++ requires that you specify the type and the identifier for each variable defined.

An identifier is a name for a variable, function, class, module, or any other user-defined item. An identifier starts with a letter (A-Z or a-z) or an underscore (_), followed by additional letters, underscores, and digits (0 to 9).

For example, define a variable called myVariable that can hold integer values as follows:`int myVariable = 10;`

Variables

5.Assignment Operators

The simple assignment operator (=) assigns the right side to the left side.

C++ provides shorthand operators that have the capability of performing an operation and an assignment at the same time.

For example:

Define all variables with a name and a data type before using them in a program. In cases in which you have multiple variables of the same type, it's possible to define them in one declaration, separating them with commas.

Increment Operator

The increment operator is used to increase an integer's value by one, and is a commonly used C++ operator.

6. Assignment Operators

The simple assignment operator (=) assigns the right side to the left side.

C++ provides shorthand operators that have the capability of performing an operation and an assignment at the same time.

7. Data Types

The operating system allocates memory and selects what will be stored in the reserved memory based on the variable's data type.

The data type defines the proper use of an identifier, what kind of data can be stored, and which types of operations can be performed.

8.Numeric Data Types

Numeric data types include:

Integers (whole numbers), such as -7, 42.

Floating point numbers, such as 3.14, -42.67.

9. Strings & Characters

A string is composed of numbers, characters, or symbols. String literals are placed in double quotation marks; some examples are "Hello", "My name is David", and similar.

Characters are single letters or symbols, and must be enclosed between single quotes, like 'a', 'b', etc.

10. Booleans

The Boolean data type returns just two possible values: true (1) and false (0).

11.Integers

The integer type holds non-fractional numbers, which can be positive or negative. Examples of integers would include 42, -42, and similar numbers.

Floating Point Numbers

A floating point type variable can hold a real number, such as 420.0, -3.33, or 0.03325.

The words floating point refer to the fact that a varying number of digits can appear before and after the decimal point. You could say that the decimal has the ability to "float".

There are three different floating point data types: float, double, and long double.

In most modern architectures, a float is 4 bytes, a double is 8, and a long double can be equivalent to a double (8 bytes), or 16 bytes.

12. Strings

A string is an ordered sequence of characters, enclosed in double quotation marks.

It is part of the Standard Library.

You need to include the <string> library to use the string data type. Alternatively, you can use a library that includes the string library.

13. Characters

A char variable holds a 1-byte integer. However, instead of interpreting the value of the char as an integer, the value of a char variable is typically interpreted as an ASCII character.

A character is enclosed between single quotes (such as 'a', 'b', etc).

14. Booleans

Boolean variables only have two possible values: true (1) and false (0).

To declare a boolean variable, we use the keyword bool.

15. Variable Naming Rules

Use the following rules when naming variables:

- All variable names must begin with a letter of the alphabet or an underscore(_).

- After the initial letter, variable names can contain additional letters, as well as numbers. Blank spaces or special characters are not allowed in variable names.

Case-Sensitivity

C++ is case-sensitive, which means that an identifier written in uppercase is not equivalent to another one with the same name in lowercase.

For example, *myvariable* is not the same as *MYVARIABLE* and not the same as *MyVariable*. These are three different variables.

Variable Naming Rules

C++ keyword (reserved word) cannot be used as variable names.

For example, int, float, double, cout cannot be used as a variable name.

16.Pointers

Every variable is a memory location, which has its address defined.

That address can be accessed using the ampersand (&) operator (also called the address-of operator), which denotes an address in memory.