



GASTON SOFTWARE SOLUTIONS TEC

**WHERE TECHNOLOGY MEETS
INNOVATION**

gmail: Gastonsoftwaresolutions234@gmail.com

Website: <https://sites.google.com/view/gss-tec>

Tel: +256755274944 +256762674526

Location: Kampala Uganda

C++ :Data and Operators Practical

questions

Activities Complete the following activities using pseudocode, a flowcharting tool, and C++ programming language. Use appropriate data types for each variable, and include separate statements for input, processing, and output. Create test data to validate the accuracy of each program. Add comments at the top of the program and include references to any resources used.

1. Create a program to prompt the user for hours and rate per hour and then calculate and display their weekly, monthly, and annual gross pay (hours * rate). Base monthly and annual calculations on 12 months per year and 52 weeks per year.
2. Create a program that asks the user how old they are in years, and then calculate and display their approximate age in months, days, hours, and seconds. For example, a person 1 year old is 12 months old, 365 days old, etc.
3. Review MathsIsFun: US Standard Lengths. Create a program that asks the user for a distance in miles, and then calculate and display the distance in yards, feet, and inches, or ask the user for a distance in miles, and then calculate and display the distance in kilometers, meters, and centimeters.
4. Review MathsIsFun: Area of Plane Shapes. Create a program that asks the user for the dimensions of different shapes and then calculate and display the area of the shapes. Do not include shape choices. That will come later. For now, just include multiple shape calculations in sequence.
5. Create a program that calculates the area of a room to determine the amount of floor covering required. The room is rectangular with the dimensions measured in feet with decimal fractions. The output needs to be in square yards. There are 3 linear feet (9 square feet) to a yard.

6. Create a program that helps the user determine how much paint is required to paint a room and how much it will cost. Ask the user for the length, width, and height of a room, the price of a gallon of paint, and the number of square feet that a gallon of paint will cover. Calculate the total area of the four walls as $2 * \text{length} * \text{height} + 2 * \text{width} * \text{height}$. Calculate the number of gallons as: $\text{total area} / \text{square feet per gallon}$. Note: You must round up to the next full gallon. To round up, add 0.9999 and then convert the resulting value to an integer.

Calculate the total cost of the paint as: $\text{gallons} * \text{price per gallon}$. 7. Review MathsIsFun: Order of Operations. Create a program that demonstrates order of operations to the user. Include parentheses, exponents, multiplication, division, addition, and subtraction in your program. Use variables for the calculations and label the output. For example, part of the program might display:

$$1 + 2 * 3 = 7$$

$$(1 + 2) * 3 = 9 \dots$$

8. Review Wikipedia: Data type. Create a program that demonstrates integer, floating point, and character or string data, and demonstrate converting between data types. For example, user input is always a string, but adding string values of "1" + "1" is typically "11", whereas, adding numeric values of $1 + 1$ is 2. Use variables for the calculations and label the output.

For a guide please fill the [booking form](#) at an affordable fee.