Write a program, that parses a predefined string. The string must be initialized in code. The processed output will be printed in the terminal. The first character of the output must be in upper case. The output must end with a point (.) and a newline. The output must not contain any vowels. Must work with any normal ASCII string.

Write a function that takes an array of unknown length, filled with integers and returns the average (arithmetic mean) of those numbers. Also write a prototype for this function. You’re free to choose the amount and type of parameters. The function must handle an array with a length of zero. Make sure to comment your function properly (parameters, return value, purpose of the function).

Write a conditional statement that checks if three integer variables (num1, num2, num3) are equal.

**Answer the following questions:**

What is a library and what are the benefits of using one?

What does the function return type indicate? What does returning void mean?

Explain the differences of using double and float data types. In which situation would one or the other be beneficial?

Write a program, that parses a predefined string. The string must be initialized in code. The processed output will be printed in the terminal. The output will contain every second word from the original string. Must work with any normal ASCII string.

Write a function that takes an array of unknown length, filled with integers. The function must print out only the numbers that are divisible by 2 or 3. It must also state with witch number it is divisible with or if it is divisible by both numbers. You’re free to choose the amount and type of parameters. Make sure to comment your function properly (parameters, return value, purpose of the function).

Write a loop that runs for 15 iterations or until the variable divError is set to 1. Also write the condition that sets the divError variable to 1 when a division by 0 error might occur. The loop body contains the following statement:

avg[i] = sum[i] / count[i];

Initialize variables as needed. You can assume, that avg, sum and count variables are already initialized.

**Answer the following questions:**

In which library is the function srand()? What does the function do? What argument does the function require?

What benefits and what limitations does using an unsigned integer type bring compared to using a signed integer?

Explain floating point precision.