

Assignment FOC: File operations.

Q1. Copy the following text in 'file.txt' and write a python program to read the file content and print only the longest line in the file.

----- the file content-----

In [mathematics](#), the **dot product** or **scalar product** is an [algebraic operation](#) that takes two equal-length sequences of numbers (usually [coordinate vectors](#)), and returns a single number. In [Euclidean geometry](#), the dot product of the [Cartesian coordinates](#) of two [vectors](#) is widely used.

It is often called "the" **inner product** (or rarely **projection product**) of Euclidean space, even though it is not the only inner product that can be defined on Euclidean space (see [Inner product space](#) for more).

Algebraically, the dot product is the sum of the [products](#) of the corresponding entries of the two sequences of numbers. Geometrically, it is the product of the [Euclidean magnitudes](#) of the two vectors and the [cosine](#) of the angle between them.

These definitions are equivalent when using Cartesian coordinates. In modern [geometry](#), [Euclidean spaces](#) are often defined by using [vector spaces](#).

In this case, the dot product is used for defining lengths (the length of a vector is the [square root](#) of the dot product of the vector by itself) and angles (the cosine of the angle of two vectors is the [quotient](#) of their dot product by the product of their lengths).

The name "dot product" is derived from the [centered dot](#), that is often used to designate this operation, the alternative name "scalar product" emphasizes that the result is a [scalar](#), rather than a [vector](#), as is the case for the [vector product](#) in three-dimensional space.

Q2. Write a program to create a file for the list of the players in your hypothetical M.Tech. football team with names of only captain and vice-captain and keep on appending the names of the rest of the team members later on to this file as and when provided (as user input).

Q3. Write a program to read the upper finalised football team and then replace all the vowels in the names by the next character in alphabetic sequence (for example 'a'-'>'b', 'e'-'>'f' and so on). Write this new content in a new file.