Python Laboratory Exercise:

Problem:

Given a VCF file with more than a thousand variants containing information about the gene data of different individuals.  
The task is to inspect all elements, parse them and convert them into the most suitable data type and transform into JSON file.

Identify the variant using one or more values from the user as input.

Solution:

Functions involved-

* Determining data type of the values listed
* Convert a single line and/or multiple lines into a dictionary according to the specified format.
* Getting the info fields from all variants
* Generating the best data type for all respective fields
* Converting all the variants into dictionaries with the best data type of their respective values
* Writing the resulting information in dictionaries into a JSON file
* Deriving the required Variant dictionary on the basis of user specified functions